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1.0 INTRODUCTION AND GENERAL REQUIREMENTS

1.1 SCOPE OF CONTRACT

The Contractor shall provide all necessary resources to establish and conduct a comprehensive program that fulfills the defined requirements for Occupational, Emergency, and Preventive Medicine, Flight Medicine, Occupational Health, and Human Test Support at JSC, Sonny Carter Training Facility (SCTF), Ellington Field, the Space Center Houston (SCH) First Aid Clinic, facilities in Russia housing both NASA and JSC contractor personnel, and other potential remote locations (domestic and international) as determined by the Contracting Officer's Technical Representative (COTR).

The scope of this contract includes sampling and analytical functions for the JSC Center Operations Environmental Services program.

The contract scope includes industrial hygiene and occupational medicine programs at the White Sands Test Facility (WSTF), Las Cruces, New Mexico.

The Contractor shall be responsible for operation or support of the following programs in the OHHTS and FMC offices of Space Medicine and Health Care Systems:

- Occupational Medicine Program (Section 2.0)
- Flight Medicine Program (Section 3.0)
- Human Test Support Program (Section 4.0)
- Occupational Health Program (Section 5.0)
- White Sands Test Facility (WSTF) Industrial Hygiene and Occupational Medicine Program (Section 6.0)

The Contractor shall provide resources and support to meet the occupational health program requirements of all applicable outside regulatory bodies, Federal, State, and local. The Contractor shall provide all resources and support to meet the occupational health program requirements of the NASA Office of the Chief Health and Medical Officer, and NASA JSC.

SOW Attachment C-1 contains workload sizing data which may be used to estimate workload and work tasks.

1.2 DEFINITIONS

For the purpose of this SOW, the following definitions shall apply:

Civil Service Personnel - NASA employees assigned to JSC and any other Federal government employees.

Joint Commission on Accreditation of Healthcare Organizations (JCAHO) - JCAHO standards are based upon consensus, performance-based metrics that are patient-focused and address the key functions that healthcare organizations must do well in order to achieve excellent outcomes of care.

Longitudinal Study of Astronaut Health (LSAH) - The LSAH examines the long-term effects of space flight on the health of astronauts. Risk of morbidity and mortality among the astronaut corps are compared to a comparison group of JSC civil service employees to identify differences which may be attributed to exposure to the space environment.

Non-Occupational Illness - An illness experienced by an employee wherein the environmental conditions of the employee's assigned work place were not a contributing factor in the development of that illness.

Non-Occupational Injury - An injury sustained by an employee while not officially engaged in the pursuit of a work assignment.

Occupational Illness - An illness experienced by an employee wherein the environmental conditions of the employee's assigned work place, (as defined by the Occupational Safety and Health Administration (OSHA)) were a contributing factor in the development of that illness.

Occupational Injury - An injury sustained by an employee wherein the environmental conditions of the employee's assigned work place, (as defined by (OSHA)) were a contributing factor in the development of that illness.

Onsite Contractor Personnel - Contractor personnel having official duty stations at JSC, Ellington Field, SCTF, and WSTF.

Primary Contact - Individuals who are known to require face-to-face access (within 6 feet) to the prime and backup crew within the 7-day period that immediately precedes a space mission.

Qualified Contractor Personnel - Contractor employees that are allowed to use the JSC Occupational Medicine Clinic (OMC) for job related physical examinations by their governing NASA contract.

1.3 GENERAL REQUIREMENTS

1.3.1 Performance and Personnel Standard

The Contractor shall ensure that all personnel assigned and utilized for performance of this contract possess all licenses, training, registrations, certifications, and certificates required by NASA Headquarters and JSC, as well as Federal, State, and local governments. The Contractor shall identify and document all certifications, licenses, registrations, and training requirements for each staff position. The Contractor shall provide this information and the status of each requirement as defined in the DRDs

The requirements for specific critical positions are detailed in Section J-9.

The Contractor shall ensure that:

- all clinical personnel, are current in Cardio-pulmonary Resuscitation (CPR) and maintain currency.
- all clinical personnel, with the exception of Emergency Medical Technician-Basics (EMT-B), are current in Advanced Cardiac Life Support (ACLS) and maintain currency.
- all nurses assigned to the OMC or FMC are registered nurses (RN) with current licenses to practice in the state of Texas.

The Contractor shall ensure that all handling and use of ionizing radiation sources onsite at JSC is conducted under the authority of the U.S. Nuclear Regulatory Commission (NRC) licenses issued to JSC.

1.3.2 Safety and Health

The Occupational Safety and Health Program requirements for Federal departments and agencies, and for private industry employees, including those who support government operations, are established by the Occupational Safety and Health Act of 1970, Executive Order 12534, and Title 29 of the Code of Federal Regulations (CFR) Parts 1960, 1910, and 1926. The Contractor shall be responsible for implementing the provisions of these regulations and implementing programs as they apply to occupational medicine and occupational health. The Contractor shall also implement Environmental Protection Agency (EPA) standards (40 CFR 1-799), where applicable, to occupational health and to those functions supporting environmental programs. The Contractor shall be responsible for continually reviewing those standards codified in the Federal Register relating to this Executive Order and all other applicable regulations affecting occupational health and occupational medicine. The Contractor shall be responsible for developing and implementing programs to comply with the above requirements for civil service and qualified contractor personnel.

The Contractor shall ensure the protection of personnel, property, equipment, and the environment in all contractor products and activities performed in support of institutional and space flight program objectives. The Contractor shall develop and implement a safety and health program in accordance with a contractor developed and NASA-approved safety and health plan. This shall ensure compliance with pertinent NASA policies and requirements and Federal, State, and local regulations for safety, health, environmental protection, and fire protection.

As applicable, the Contractor shall implement system safety engineering tasks for flight and institutional program activities and products in accordance with the schedule and applicable flight and institutional requirements in the contractor developed and NASA approved system safety program plans.

The Contractor shall develop and implement risk management techniques (including risk assessment). These shall be applied to hazards identified from analyses of activities and products, for the purpose of eliminating or controlling all hazards.

1.3.3 Occupational Safety and Health Administration (OSHA) Voluntary Protection Program (VPP)

The Contractor shall fully support the JSC Safety and Health (S&H) OSHA VPP efforts and continued operation of the JSC's "Star" certified program, primarily performing the role as subject-matter expert for all occupational health programs for the Center and those topics relating to the OMOH program. The Contractor shall support, develop, and participate in periodic audits, annual continuous improvement efforts, annual and periodic summary reports, and continuing JSC VPP certification activities.

The Contractor shall provide health program support for any onsite contractor attempt at OSHA VPP recognition.

The Contractor is highly encouraged to pursue VPP "Star" certification.

1.3.4 Facility Management

The Contractor shall provide facility management as described in the JSC Facility Manager Handbook. As directed by the COTR, the Contractor shall provide facility managers.

1.3.5 Program Audits/Reviews/Inspections

The Contractor shall provide administrative and technical support to periodic internal and external program audits including those by OSHA VPP, NASA Headquarters (HQ) Office of the Chief Health and Medical Officer (OCHMO), NASA HQ Safety or Environmental Functional Reviews, and other outside agencies. The Contractor shall also prepare audit reports and follow up reports to respond to any audit findings.

1.3.6 Student/Co-Op/Medical Resident Programs

At the direction of the COTR, the Contractor shall provide administrative, laboratory, technical, scientific, mentoring, and logistics (i.e., desk space, office supplies, phone, computer etc) support to OHHTS student programs. These student programs shall include, but not be limited to: summer students, co-ops, and aerospace or occupational medicine residents. The salary costs of these individuals will not be the responsibility of the Contractor.

1.3.7 Space Life Sciences Communication/Chain of Command

Every employee within the Occupational Medicine and Occupational Health Contract (OMOHC) has the authority and is expected to “stop work” for any Immediately Dangerous to Life and Health, (IDLH) or unsafe/unhealthy act that is encountered in the workplace. This action can take place without regard to normal lines of communication and authority. For all other routine and non-IDLH hazard situations, all contract employees shall follow appropriate SLSD lines of communication. The SLSD chain of command is as follows: OMOHC, OHHTS (COTR and Chief), Space Medicine and Health Care Systems Office, and SLSD.

The Contractor shall participate in management meetings for the purpose of communicating current project status and priorities with OHHTS personnel. These meetings shall occur semi-monthly, or as directed by the COTR.

The Contractor shall ensure that any requests for services from senior management are reported to OHHTS. Any senior staff, directorate, or division level articles, presentations, or briefings to be given across the center or to JSC senior management, shall be reviewed with the COTR and OHHTS prior to dissemination, except where agreed to in advance by the Contractor, COTR, and OHHTS management.

Contractor personnel will interact with all levels of organizations and management in the normal course of their job. Contractor personnel are prohibited from giving verbal technical direction or offering official positions to any other contractor. Official positions or communications providing direction shall be in writing.

The Contractor shall notify JSC OHHTS (COTR and Chief) immediately of the following:

- any “Stop Work” or IDLH situation
- significant workplace injury or illness responded to, or reported at the OMC
- any significant anomaly experienced during Human Test Support activities
- significant, actual, or suspected exposure to physical, chemical, or biological hazards in the workplace
- other occupational health issues found by the Contractor that may have impact to the Center.

Due to the critical nature of this notification, every effort shall be made to speak directly with the COTR or Chief OHHTS via telephone. E-mail and voice-mail messages are not considered acceptable for this notification.

The Contractor shall give no official direction that could result in added scope or cost directly to any Center Operations construction contractor. All communication must be conducted through the NASA project manager or through the project manager's onsite construction contract support. Communication must be followed up in writing and filed in project documents.

1.3.8 JSC OHHTS Documents, Web Sites and Databases

The Contractor shall be responsible for the periodic technical review and configuration management of all OHHTS documents, data bases and health programs on the JSC Homepage. This includes but is not limited to: JSC Total Health Homepage and Total Health Wellness Tool, OHHTS program documents, JSC Procedures and Guidelines (JPG), JSC Procedural Requirement (JPR), JSC Safety and Health Manual, JSC Emergency Preparedness Plan (EPP), Occupational Health databases and report repository.

The list of databases currently in use is shown in Section J-10. The Contractor shall ensure that the data within all occupational health databases is reviewed monthly, and any new information added to the appropriate database within two weeks. Upon concurrence from the COTR, the Contractor may alter the structure or the platform of any individual database(s). The data shall be available to the COTR and to OHHTS.

The Contractor is responsible for developing and maintaining the JSC Total Health Homepage and shall review content every other month to ensure that any outdated information is updated or removed. Overall design and format shall be proposed by the Contractor and approved by COTR.

1.3.9 Health Program Development

For the purpose of supporting continuous improvement of JSC's safety and health program (VPP) and determining impacts of new or proposed S&H regulations, the Contractor shall:

- Recommend improvements to enhance JSC occupational and preventive health programs based on accepted medical and clinical recommendations.
- Review Federal, State, and NASA documents, and trade publications to determine applicability and impact of any new or proposed regulations or best practices on operations. The Contractor shall alert JSC OHHTS, in writing, of regulation and program changes and shall recommend an implementation plan.
- Develop and distribute health awareness information through established JSC communications methods such as; Safe Alerts, JSC Today, Roundup, Senior Staff "One-Pagers", etc.

1.3.10 Documentation and Reports

The Contractor shall be ISO 9001:2000 certified (registered) within one year of contract start.

Specific reporting requirements are defined in Section J-1, Data Requirements Lists and Documents.

The Contractor shall maintain and revise manuals for each area of the SOW, including general operating procedures, standard operating procedures, and work instructions.

The Contractor shall be responsible for developing, maintaining and providing periodic revisions of the OMOH sections of JPG 1700.1, the JSC S&H Handbook, and other safety and health guidance documents at the Center.

The Contractor shall prepare or assist in the preparation of narrative, statistical, trending, financial, exposure reports, and OHHTS metrics as may be required by regulatory agencies, OHHTS, JSC, and NASA OCHMO.

The Contractor shall provide "trip reports" when traveling for operational or technical support activities for the purpose of conveying the results of these activities to SLSD management.

The Contractor shall develop written reports on field investigations and develop project folders for all construction and renovation project support for the purpose of documenting findings and tracking resolutions of those findings.

Both OHHTS and SLSD utilize "Action Tracking Systems" to assign technical direction for specific project and technical support. Additional center action tracking systems, e.g., Coordination Action Tracking Log (CATL), may also be used for action assignment and monitoring. Technical direction to the Contractor will be made utilizing these systems.

Utilization of local area computer networks in the electronic collection of data and report writing is required for all functions within the contract. This includes support and interface with the JSC FMC and OMC Electronic Medical Record (EMR) System. Liaison with Space Medicine and Health Care Systems personnel and associated contractor personnel for computers is necessary.

The Contractor shall utilize existing JSC hazard reporting systems, such as the Hazard Abatement Tracking System (HATS), Close Call System, and the Incident Reporting and Information System (IRIS) for the documentation of hazards and incidents encountered in the workplace. The Contractor shall enter regulatory compliance findings (OSHA, NASA, JSC, etc.) into the appropriate hazard tracking system for corrective action and closure. The JSC Safety and Fire Services (SFS) Contractor manages the JSC hazard reporting databases and will grant access to a limited number of OMOH contract personnel. Recommendations and "Good Practice" items shall not be put into reports or hazard tracking unless determined to be necessary to reduce hazard or exposure, or specifically requested by a customer.

The Contractor shall not respond directly to any Freedom of Information Act (FOIA) or any "outside of the Center" data request. The NASA OHHTS office shall be notified of any such requests; all requests for such data shall be executed through the JSC OHHTS.

1.3.11 Emergency Preparedness

The Contractor shall be responsible for all health aspects of the JSC Center Operations Directorate (COD) managed Emergency Preparedness and Emergency Response Team (ERT). Health aspects include ambulance and emergency medical support, Employee Assistance Program (EAP), and all field functions of occupational health, (industrial hygiene, radiation, environmental, laboratory). Activities to be supported include planning, drills, responses and response critique activities. The Contractor shall make recommendations and is the technical lead for dispatcher training for medical, hazardous

materials (HAZMAT) exposure, and confined space emergency response. The Contractor shall comply with JSC 05900, the JSC Emergency Preparedness Manual. The Contractor shall update and revise all occupational health sections and annexes of JSC 05900.

The Contractor shall ensure that appropriately trained personnel are available for onsite emergency response, 24 hours a day, 7 days a week for all ERT support functions. Contractor personnel shall be available by pager or cell phone, and shall make contact with the JSC Emergency Operations Center (EOC) within 30 minutes of receipt of a phone call or page, and shall respond onsite within one hour if onsite presence is necessary.

All emergency response personnel shall have Incident Commander training within six months of hire, personnel without incident commander training shall not be designated for emergency response.

1.3.12 Mishap Investigation

For the purpose of determining root cause of JSC mishaps the Contractor shall conduct, participate as a board member, or provide expertise to mishap investigations in accordance with JPG 1700.1 as directed by the COTR or OHHTS. The Contractor clinical personnel may be required to provide expertise for any mishap involving injury or illness. OMOHC field personnel shall investigate all suspected or actual exposure and illness incidents.

1.3.13 Safety and Health (S&H) Program Committees

The Contractor shall participate in, or lead, various JSC S&H committees as directed by the COTR. This participation may include such activities as chairing, organizing, coordinating, or providing administrative support for action tracking and resolution. These committees include but are not limited to the Executive Safety Committee (ESC), Coordination Committee, the Aerospace Medicine Board (AMB), the Radiation Safety Committee, the Hearing Conservation Executive Board, the Aerospace Medicine Dive Medicine Board (ASDMB), and the Committee for the Protection of Human Subjects (CPHS).

1.3.14 Biohazardous Waste

The Contractor shall collect, contain and dispose of all biohazardous waste generated by JSC OMOHC activities in accordance with the regulations of the Texas Department of State Health Services (TDSHS) and Texas Commission on Environmental Quality (TCEQ).

The Contractor shall provide disposal services for all biohazardous wastes generated by other organizations across site with the exception of the Bioastronautics contractor.

The Contractor shall provide "sharps containers" when requested and shall provide disposal services for these containers, and their small amounts of biohazardous waste when returned (example: from diabetic testing or injections).

1.3.15 Supply System

The Contractor shall procure all pharmaceuticals, supplies, and equipment that are used in all functional areas defined in this contract.

The Contractor is required to procure supplies in a cost efficient manner and may use any available Government supply system. JSC Store Stocks are not available for use by JSC contractors. The Contractor shall use Government sources whenever available.

(a) Pharmaceuticals - All pharmaceuticals that are procured in support of the OMOHC shall be dispensed through the JSC pharmacy located in Building 8 with the exception of those used in support of the WSTF Clinic. The JSC pharmacy is operated by the Bioastronautics contract. The Contractor shall work closely with the JSC pharmacy to ensure adequate supplies of prescription and non-prescription medications are available. The Contractor shall purchase supplies as directed by the chief pharmacist to maintain clinical supply inventories at a sufficient level to sustain the daily operation of the OMC and FMC. The Contractor shall develop a Memorandum of Agreement (MOA) with the Bioastronautics Contractor for pharmacy operations.

All drugs regulated by the Drug Enforcement Administration (DEA) under the Controlled Substances Act are subject to controls established by JPD 1815.1 and are subject to all applicable Federal and State regulations.

(b) Clinical Supplies - The Contractor shall provide all necessary clinical supplies to support the operation of all functional areas of this contract.

The Contractor shall supply first aid kits and contents for restocking at the request of JSC organizations as required.

(c) Protective Equipment - The Contractor shall provide prescription safety glasses to onsite (civil servant and contractor) personnel working in eye hazardous areas. These prescription safety glasses shall be provided at the maximum frequency of one pair every two years unless the employee's prescription has changed or their current pair has been lost or damaged.

NASA flight crew and Aircraft Operations Division (AOD) personnel shall be provided with hearing protection through the FMC.

The Contractor shall supply all necessary personal protective equipment (PPE) (level A, B and C) for NASA OHHTS and the OMOH Contractor emergency response personnel.

(d) Other Supplies - The Contractor shall maintain adequate levels of equipment and supplies to ensure timely operations in all other functional areas of the contract

1.3.16 Protocol Compliance Review and Approval

The Contractor shall provide a physician to act as the Protocol Compliance Officer to the JSC CPHS. This includes review of research protocols, serving as a voting member of the CPHS and monitoring the conduct of research in JSC laboratories.

1.3.17 Medical Records Management

The Contractor shall ensure confidentiality, availability, and integrity JSC OMC medical records. The Contractor shall utilize, and upgrade as appropriate, the existing JSC EMR System (EMRS) which supports both the OMC and FMC. The Contractor shall plan, implement, and maintain development of the EMRS. The overall OMC and FMC EMR system is managed through the Bioastronautics contract. While NASA is not required to be HIPAA compliant at this time, the Contractor shall meet the standards required by HIPAA and shall develop and implement processes compliant with HIPAA and the Privacy Act of 1974 in their management of patient medical records. The Contractor shall:

- Develop an MOU with the Bioastronautics Contractor for interaction, operations and maintenance of the EMR.
- Provide copies of patient medical records as requested to any requesting party named in any properly executed patient release form. All records released shall be delivered through the OHHTS office and the JSC Legal office.
- Train the members of the clinical design teams on workflow processes and development of converting the paper process to the electronic process.
- Train all users in existing and future software and system upgrades.
- Develop customized encounter forms and templates.
- Maintain the encounter forms, evaluate their usage, and log changes identified by the clinical teams.
- Assist the technical team with the evaluation and implementation of additional software and system modifications.
- Work with administrative and clinical staff at the clinic level to assess, plan, and design new workflows and customization of the system to the OMC's needs.
- Create customized reports to facilitate reporting of metrics.
- Track performance improvement initiatives to increase standard of care delivered. Improve on any problem areas and track and test the changes.
- Communicate with software vendor and other contractors as needed in order to upgrade the software, then train staff and users to the continual upgrades.
- Develop a plan for managing the privileges and preferences of users.
- Maintain the clinical "Help" desk.
- Develop policies within the clinic and medical records specialists for the ongoing use of the EMRS.

2.0 OCCUPATIONAL MEDICINE PROGRAM

2.1 GENERAL INTRODUCTION

The Contractor is responsible for the operation of the occupational, emergency and preventive medicine program. The Contractor shall also provide all of the necessary resources to conduct all additional medical efforts for the functions listed in this section and to provide support as outlined in Section 3.0, Flight Medicine Program.

The Contractor shall be compliant with JCAHO Ambulatory Care Standards and all applicable Federal (including OCHMO), State, and local regulatory requirements for the operation of all clinic facilities. The Contractor is not required to be JCAHO accredited, but shall meet all applicable JCAHO standards.

2.2 MEDICAL TREATMENT – OCCUPATIONAL

JSC civil service personnel, other Federal Government employees assigned to JSC, Armed Forces personnel detailed to JSC and all onsite contractors having an occupational injury or illness shall be provided diagnosis and medical treatment. When medical services are required, which are beyond the capabilities of the clinic, the patient will be referred to an appropriate physician. Military personnel will be referred to a physician within the Department of Defense (DOD) extended medical care network, should outside referral be necessary.

Onsite contractor personnel, who have an on-the-job injury or have an occupational illness, shall be provided diagnostic and medical treatment, primarily of a first aid nature, at the JSC OMC, within its capacity. Suspected cases of occupational illness or injury

shall be referred to the employer's designated occupational physician, as appropriate. The JSC OMC shall act as the occupational physician for NASA civil service personnel.

2.2.1 Injury/Illness Case Management/Workers Compensation

The Contractor shall operate an injury/illness case management program to respond to civil servant and contractor injuries and illnesses. The intent of the program is to successfully return employees back to work at full function as soon as possible following a mishap. For civil servants, this support shall include initial diagnosis, injury/illness classification, work status determination, case notification and discussion with all need to know parties (employee, their management, OHHTS and the Safety and Mission Assurance Directorate (S&MA)), case management support during any extended rehabilitation, and return to work authorization.

NASA JSC civil servant mishaps are medically managed under the Department of Labor (DOL) workers compensation program. The Contractor shall perform follow-up for all civil servant and contractor injuries and illnesses, arranging for outside medical testing, and assisting employee management in return to work issues.

After initial treatment at the OMC, contractor injuries and illnesses shall be turned over to the appropriate contractor case management personnel.

Both confirmed and suspected occupational injuries and illnesses shall be reported to S&MA and Industrial Hygiene for hazard control and investigation within one hour of clinic presentation. OHHTS shall be notified of incidents as noted in Section 1.4.6, SLSD Communication/Chain of Command.

Clinic reports of occupational injury or illness forms shall be processed at the end of each day for notification to S&MA and the Occupational Health Officer. The COTR shall be notified of any significant cases within one hour of report to clinic or ambulance run. Results of any illness investigation or exposure determination to determine workplace causal association shall be placed in the employee's medical file.

The OMC shall ensure appropriate notification of suspected occupational exposure is made to industrial hygiene for investigation and documentation. Examples include suspected illness due to poor indoor air quality, hearing threshold shifts, blood-borne pathogen and chemical exposure. The Contractor shall assist in determining OSHA record-ability requirements of such exposures, shall ensure that these cases and exposures are recorded, and shall collect metrics for analysis and trending.

The Contractor shall initiate and process civil servant Workers' Compensation claims and coordinate the handling and reporting of these claims with the DOL Office of Worker's Compensation Program (29 CFR 1904). The Contractor shall provide metrics and reports to the JSC OHHTS COTR, the HQ OCHMO, and the DOL for worker's compensation activity. The Contractor shall ensure that personnel processing worker's compensation claims attend the Department of Labor Worker's Compensation Course within 6 months of contract start.

2.2.2 Support of Flight Medicine Clinic

OMC personnel shall perform certain functions for JSC FMC patients, including astronauts, astronaut dependents, active duty members of the U.S. Armed Forces, payload specialists, actively flying AOD personnel, and retired astronauts, in accordance with NPD 8900.3 (Astronaut Medical and Dental Observation, Study and Care Program).

Accordingly, the following functions shall be performed by the OMC personnel in support of the FMC:

- Procurement of medical supplies, in-clinic diagnostic equipment, and linens.
- Perform X-rays, ECGs, optometric testing, audiometric testing, pulmonary function testing, exercise-tolerance testing, and proctosigmoidoscopy exams, coordinate laboratory analysis and testing.
- Medical diagnostic and testing services for astronauts, astronaut candidates, AOD personnel and astronaut family members.
- Medical evaluation of astronaut candidates and support for astronaut selection as directed by the Chief, FMC.

Medical evaluations and consultations shall be performed by JSC approved medical specialists, as required. Other examination procedures, as requested by Flight Medicine or the examining physician, shall be arranged by the Contractor to be performed at outside medical facilities.

2.3 MEDICAL TREATMENT – NON-OCCUPATIONAL

JSC Civil Service, Federal Government employees, Armed Forces personnel, and onsite contractor employees on duty at NASA JSC experiencing a non-occupational illness during work hours shall be provided primary diagnosis and treatment with subsequent referral to their personal physician. The Contractor shall make reasonable attempts to diagnose, treat (within their capabilities) and return to work employees who have minor personal health issues.

Upon written request of the personal physician of the employee, medications (e.g. including but not limited to allergy medications, immune globulin, etc.) supplied by the employee shall be administered by the OMC. Injections shall be given only when a physician is present in the Clinic and shall follow medically acceptable protocols, which include a regulated observation period. The number of personnel utilizing this service shall not be limited; the Contractor shall develop a process for administering these injections.

2.4. PHYSICAL EXAMINATIONS

2.4.1 Health Maintenance Examinations

The Contractor shall provide Preventive Health examinations to civil servants in accordance with U.S. Preventive Services Task Force, and current preventive health guidelines. The current physical exam protocol, "Civil Servant Health Screening Physical Examination" is found in Attachment C-2.

In addition to providing examinations for civil service personnel located at or assigned to JSC, the Contractor shall provide examinations for other civil service personnel as authorized by Memoranda of Agreement (MOA) with other Federal Agencies. The employment status shall be furnished to the cognizant Federal Agencies, with copies retained by the Clinic.

JSC assigned active duty Armed Forces personnel requiring complete or partial periodic certification examinations shall receive these exams as required.

Personnel shall be given additional tests or may be examined at more frequent intervals if medical findings, hazards in the work environment, or job-related conditions warrant this evaluation and are prescribed by the evaluating physician.

2.4.2 Job Related Physicals

The Contractor shall provide physical examinations (initial/pre-placement, periodic, termination) for civil servants and qualified contractor personnel as required by OSHA regulations or as found in the NASA Occupational Health Program Requirements, NPR 1800.1, the JSC Safety and Health Handbook, JPG 1700.1, or other applicable adopted standard.

Civil service and onsite contractor personnel engaged in special occupations determined to be potentially hazardous to them or indirectly hazardous to others, shall be given examinations which include special tests and procedures that are appropriate for the specific hazards to which the individual is exposed. Some personnel will be required to have pre-placement and termination exams. The Contractor shall develop a process to ensure that employees and their management are notified in writing or electronically of the results, pass or fail, of all job related physical examinations. The Contractor shall support requests for case review through the AMB or ASDBM, for those employees who do not meet the medical requirements of their job.

2.4.3 Medical Examinations and Consultations

The Contractor shall provide medical examinations, consultations, and recommendations for reasonable accommodations for performance of job assignments for individuals with disabilities or who are convalescing after a serious illness or injury.

The Contractor shall also evaluate and approve the assignment of reserved parking spaces to onsite employees in order to accommodate a disability or to support convalesce after a serious illness or injury.

2.4.4 LSAH Control Examinations

The Contractor shall provide physical examinations to a control population of civil servants, according to the requirements of the LSAH, which will be extended to control subjects even after they are no longer NASA civil servants at JSC. The current LSAH physical examination schedule is found in Attachment C-3.

2.5 LABORATORIES AND SERVICES

2.5.1. Radiology

The Contractor shall operate the onsite X-ray services located in Building 8. X-ray preparation and interpretation shall be provided in conjunction with the medical treatment and health examination programs. A registered x-ray technologist shall accomplish the preparation of x-rays. An interpretation shall be made by a board-certified radiologist within 72 hours, or as directed by the treating physician.

2.5.2. Clinical Laboratory

The Contractor shall utilize the JSC onsite Clinical Laboratory, operated by the Bioastronautics Contractor, located in Building 37 for all routine and "STAT" clinical laboratory analysis. Sample collection will be conducted in Building 8 or Building 37, depending on employee exam protocol. When the capability does not exist to perform a test onsite, arrangements shall be made to perform the tests at an outside laboratory through and approved by the NASA Space Medicine and Health Care Systems Clinical Laboratory Medical Director. Agreements for analysis turn around time, patient scheduling and any necessary pick-up, delivery, and disposition of samples shall be

accomplished with the Medical Director of the Building 37 Clinical Laboratory. The OMOH Contractor shall develop a Memorandum of Understanding (MOU) with the Bioastronautics contractor.

2.5.3. Cardiopulmonary Laboratory (CPL)

The Contractor shall operate the onsite Building 8 CPL in which cardiovascular/pulmonary evaluations shall be conducted. All testing protocols shall be approved by SLSD medical personnel. The Contractor shall monitor all tests according to current medical standards, and all contractor personnel working in the CPL shall have current training in CPR and ACLS. A physician current in ACLS shall monitor all exercise tests. A board-certified cardiologist with aerospace medicine experience shall interpret all of the results of the tests. These tests, intended to detect latent disease, shall be designed and conducted for the following:

- (a) Preventive and Occupational Medicine Examinations - Treadmill exercise tolerance tests and electrocardiograms, unless clinically contraindicated, shall be offered to civil service personnel and to participants in LSAH based on U.S. Preventive Services Task Force recommendations and keyed to NASA specific protocols. Treadmill tests shall also be provided when indicated by a physician to determine employee status for certain job related activities or to supplement occupational medicine examinations.
- (b) Flight Personnel Examinations - The CPL shall provide cardiovascular and pulmonary evaluations for the purpose of assessing the health status of astronauts, astronaut candidates, all others to be certified for space flight, AOD flight crew members, and retired astronauts, as outlined in the specific FMC testing protocols.

2.5.4. Audiometric Testing

All personnel who perform audiometric testing shall be Council in Accreditation for Occupational Hearing Conservation (CAOHC) certified within six months of contract start.

2.5.5. Medical Support for Personnel in Russia

The Contractor shall staff an extended occupational medicine and environmental health program to support NASA-affiliated travelers in Russia, which includes NASA civil service personnel, contractor personnel, immediate family members, investigator teams, dignitaries, and others as designated by the Director of Operations, Russia. The objective of this program is to provide NASA affiliated travelers with services that are at least comparable to care available at JSC.

The Contractor shall operate the pre-travel medical clearance program at JSC for personnel traveling to Russia. The Contractor shall be responsible for screening travelers who are NASA employees or affiliated contractor personnel. As requested by the COTR, this shall include family members who will accompany the primary traveler. Screening shall include a physical examination and a behavioral health screening process with referral to appropriate specialists, as indicated. Further, specific counseling shall be provided for those personnel and their dependents moving to Russia.

This program shall provide NASA affiliates in Russia with pre-travel medical evaluations and immunizations, medical care/medical oversight while in Russia and other services necessary to assure optimum health and productivity before, during, and after the travel period.

Medical care and services shall be provided 24 hours/day in Russia.

This program shall be based in Moscow and shall be supported by services of the JSC OMC via the contractor Russian Program Administrator. Medical support shall include appropriate staffing, equipment and pharmaceutical supplies to effectively provide primary care type services to personnel in Russia. The Contractor shall be able to access specialists and to assist in hospital admissions in Russia or triage services for aeromedical evacuation out of the country, including accompanying an evacuated patient, as needed.

Personnel assigned to this program shall provide assistance to the NASA Director of Operations in Russia and shall provide back-up support to the NASA physician stationed at the Gagarin Cosmonaut Training Center (GCTC) in Star City and to NASA Flight Medicine personnel in Baikonur.

2.6 ADDITIONAL MEDICAL EFFORTS

2.6.1 Immunizations

All immunizations required by local, State, Federal, or International laws or regulations shall be provided by the Contractor to JSC civil service personnel, assigned Armed Forces personnel, and contractor employees if the requirement is based upon a JSC assignment. Tetanus, influenza, hepatitis A, and B, and other immunizations compatible with good public health and preventive medicine measures shall be offered. The Contractor shall supply immunization materials and immunizations.

The Contractor shall operate the annual JSC Flu Shot program, purchasing, offering and providing flu shots to JSC contractors and civil servants.

2.6.2 Headquarters Health Initiatives

The Contractor shall manage and implement all HQ OCHMO health initiatives, such as the "Solar Safe" skin cancer awareness and screening campaign. The Contractor shall keep and report metrics as required by the COTR.

2.6.3 Personnel Reliability Program (PRP) Program

The Contractor shall implement OMOH aspects of the JSC PRP program in accordance with NASA and JSC guidance. The Personnel Reliability Program is designed to ensure individuals assigned to critical job functions within NASA are physically and mentally able to perform.

2.6.4 Health Stabilization Program

The Contractor shall implement the requirements of the Health Stabilization Program as defined in JSC 22538. This shall include primary contact physical examinations, program promotion, and appropriate administrative requirements. The Health Stabilization Program ensures that assigned astronauts are protected from potentially contagious diseases prior to flight.

2.6.5 International Travel

The Contractor shall operate the pre-travel medical clearance program, as required by JSC and NASA OCHMO, for personnel traveling internationally on official business. The Contractor shall be responsible for screening travelers who are NASA employees or

affiliated contractor personnel. As requested by the COTR, this shall include family members who will accompany the primary traveler. Screening shall include a physical examination and a behavioral health screening process with referral to appropriate specialists, as indicated. In addition, prior to a traveler's departure, the Contractor shall provide travelers with non-prescription medical items appropriate to the traveler's destination.

2.6.6 Space Center Houston First Aid Clinic

The Contractor shall provide adequate personnel and resources including all clinical supplies to operate a satellite first aid clinic at SCH during SCH operational hours. The Contractor shall treat minor injuries or illnesses for the SCH operations staff and guests; follow up of employee mishaps; maintain all applicable health programs such as infection control and blood borne pathogens; and administration of the Automated External Defibrillator (AED) CPR Programs for the SCH owned AED.

SCH provides all non-disposable equipment such as an exam table, bed, recliner, computer, and two-way radios. SCH is also responsible for providing items that may be unique to SCH such as name badges.

2.6.7 AED Program and Crash Carts Management

The Contractor shall be responsible for managing all aspects of the JSC AED program according to JSC 29209, Procedure for Operating Automated External Defibrillator Program at JSC, and NPR 1800.1, NASA Occupational Health Program Procedures.

The contractor shall propose program changes or modifications, as required, and present them to OHHTS management, then AED committee, and then JSC S&H committees for concurrence and recommendations for implementation strategies specific to JSC.

The Contractor shall provide recommendations and program inspections to WSTF for the operation of their AED program.

The Contractor shall manage and maintain all JSC "crash carts". The Contractor shall chair the JSC crash cart committee.

2.6.8 Employee Assistance Program (EAP)

The EAP is designed to monitor and improve the mental and behavioral health, and over-all well-being of JSC civil service and contractor personnel. The Contractor shall perform the following professional and administrative functions in accordance with the NASA EAP NPD 1830.1 and the Privacy Act of 1974. The EAP shall work under the direction of the OMOHC Medical Director and OHHTS. The Contractor shall:

- Provide awareness information to employees and supervisors concerning the EAP.
- Conduct separate and confidential interviews with employees, dependents, and supervisors to assess the problem and determine solution options.
- Work with employees to explore options and offer help in making referrals for outside treatment or other community resources.
- Limit the number of visits for a specific case in accordance with NPD 1830.1. Exception(s) may be allowed when requested by COTR or Human Resources.
- Perform follow-up to ensure referral agreements are implemented.
- Maintain complete confidentiality of employee information in accordance with relevant laws and regulations.

- Provide assistance in programs such as the Federal Drug Free Workplace Program and the AIDS-in-the-Workplace Program.
- Provide resources, oversight and review to conduct the EAP efforts at WSTF and the NASA operations in Russia.
- Develop and maintain a Critical Incident Stress Debriefing (CISD) program, using volunteers from across the Center that could be quickly deployed to respond to any mass need for counseling within the Center. The CISD must be large enough in scope to handle the Center population.
- Participate in the JSC Emergency Preparedness Program in accordance with JPD 1040.2 JSC Emergency Preparedness Program.

2.6.9 Health Education/Promotion (Total Health)

The Contractor shall support and maintain the JSC Employee Wellness and Health Promotion (Total Health) program for the purposes of encouraging employees to maintain personal health on the job, as well as, healthful work habits off the job.

Examples of previous campaigns include nutrition, stress evaluation and control, coronary risk assessment and control, smoking cessation, substance abuse (to include alcohol, legal and illegal drugs), and body fat assessment and control, and other programs designed to protect and enhance the health of civil servant and contractor employees. Information shall be disseminated to employees through all available media at JSC, Total Health Homepage, Safety and Total Health (S&TH) Newsletter, pamphlets, presentations, etc.

At the direction of the COTR, the Contractor shall develop health presentations for management level events and meetings such as Senior Staff and the ESC.

The Contractor shall support, through planning and participation, JSC sponsored safety and health events such as S&TH Day, Spring Safety and Health Fair, JSC Open House, VPP training and teaming events, etc.

The Contractor shall provide and maintain an “off the shelf” web-based wellness tool (placed on the Total Health Homepage). The tool, at a minimum, shall include health risk appraisal, clinical, medical, pharmaceutical, and nutritional information. The tool shall be interactive, available to all employees and their family members. The proposed system shall be approved by the COTR and IRD. The contractor shall work with IRD to implement and disseminate the tool.

The Contractor shall also maintain the blood pressure machines located in the JSC cafeterias, Buildings 3 and 11, and the Gilruth Center.

The JSC Wellness program is jointly shared by OHHTS and the JSC Exchange Operations, within Human Resources. The JSC Wellness Director is detailed to the JSC Exchange, working jointly with JSC OHHTS, the JSC Exchange, and other onsite organizations.

2.6.10 Health Related Physical Fitness Program

The Contractor shall implement the Health Related Fitness Program as defined in JPD 1830.5, the JSC Health-Related Fitness Program (HRPF).

2.6.11 Starport Fitness Center at the Gilruth

The Contractor shall provide exercise and fitness program prescriptions to members of the Starport Fitness Center. The Contractor shall provide facility safety training, including weight safety training, to users of the Starport facility. At the direction of the COTR, the Contractor shall support day-to-day operation of the Starport Fitness Facility.

The Contractor shall administer a medical screening program to qualify individuals for use of any of the Fitness Center facilities or programs.

2.6.12 Medical Review of NASA Substance Abuse and Testing Program

The Contractor shall provide a physician to act as the JSC Medical Review Officer (MRO) in accordance with NPR 3792.1, Plan for a Drug-Free Workplace. The MRO shall be current in qualifications. A summary of activities will be communicated in activity reports.

The contractor shall provide sample collection support for NASA Human Resources case specific requests for drug testing.

2.7 EMERGENCY MEDICINE

2.7.1 First Aid/Medical Treatment

First aid treatment and emergency care shall be provided to any individual who becomes ill or is injured whether onsite at JSC, SCTF, or while conducting NASA operations at Ellington Field or as directed by the COTR for other locations in the Clear Lake area. Physicians and clinical staff shall have adequate capabilities to treat those emergencies related to the nature of the operations at JSC and such items as minor suturing, x-ray interpretation, labs and diagnostics related to workplace exposures, and other minor workplace trauma. Such capability shall be available during duty hours and at additional times as requested by the COTR. The Contractor shall make a reasonable attempt to treat minor mishaps. Such treatment, however, is at the discretion of the attending physician, who may request transport of any patient to another health care facility as deemed appropriate.

2.7.2 Ambulance Operations

The purpose of ambulance operations program is to respond to emergency incidents and to render emergency medical care and transportation to the sick and injured. Ambulances shall respond onsite at JSC, at SCTF, within the NASA operations area of Ellington Field, and other locations in the Clear Lake area as defined by the COTR.

The Contractor shall operate the two government furnished ambulances at JSC and the one government furnished ambulance at Ellington Field. All ambulances shall be operated by personnel currently certified by the TDSHS. Each in-service ambulance shall be operated with a minimum of one Paramedic (either a Licensed Paramedic (LP) or an Emergency Medical Technician – Paramedic (EMT-P)) and one EMT-B. The EMT-B shall have current Basic Trauma Life Support (BTLS) – Basic training and the paramedic shall have current ACLS and BTLS - Advanced training.

Transportation may be to an appropriate emergency medical care facility in the Clear Lake area, Houston, or Galveston. At the discretion of the OMC physician and the paramedic, minor incidents may be transported to the JSC OMC.

When in service:

- (a) the ambulance(s) stationed at JSC shall be the primary emergency medical response onsite at JSC
- (b) the ambulance stationed at Ellington Field shall be the primary emergency response for Ellington Field and
- (c) and there are two ambulances in service onsite at JSC, an ambulance stationed at JSC shall be the primary emergency response for the SCTF or to other locations in the Clear Lake area as directed by the COTR.

The Contractor shall maintain all ambulances to Department of Transportation (DOT) ambulance standards and shall ensure that the ambulance equipment and personnel are compliant with the Texas Health and Safety Code Section 773.044 and 25 Tex. Admin. Code §157.11, Mobile Intensive Care Unit (MICU) Provider Qualifications. The Contractor shall equip these ambulances to a level which will allow care consistent with ACLS standards as well as allow treatment of other life threatening medical emergencies that may be encountered. The Contractor shall be compliant with the requirements for maintaining a TDSHS Emergency Medical Services (EMS) Provider License but is not required to obtain this license.

At the direction of the COTR, the Contractor shall provide ambulance personnel to operate an ambulance and provide support for crew activities and special events. When in service, the JSC and Ellington Field ambulances shall act as back up for any onsite mass-casualty medical emergency where incident command has been transferred to the Houston Fire Department.

The Contractor shall designate a physician who shall act as the Medical Director for ambulance operations, the SCH First Aid Clinic, and paramedics providing medical care in the Human Test Support Group. The Medical Director shall comply with the Texas State Board of Medical Examiners Rules for EMS (Chapter 197.1 to 197.5). The Medical Director shall be familiar with the community standards for emergency medical care and shall ensure that the emergency medical care protocols are maintained in accordance with current Emergency Cardiac Care recommendations and at or above other local community standards. These protocols shall be reviewed annually.

The Contractor shall ensure that the continuing medical education needs of all personnel assigned to ambulance operations are met.

A least every six months, the Contractor shall ensure the competence of those non-physicians required to perform advanced life support tasks. This includes, but is not limited to, intravenous fluid administration, endotracheal intubation, static and dynamic ECG recognition, and medication administration. These data shall be available upon request of the COTR.

3.0 FLIGHT MEDICINE PROGRAM

The Flight Medicine Clinic (FMC) will be supported by the contractor as a level of effort (LOE) activity. All activities listed below, as well as any others deemed necessary to support the operations of the FMC, shall be carried out by the Contractor under the direction of the Chief, Flight Medicine Clinic (NASA). In order to support these activities, the Contractor shall provide staffing at the following levels for direct FMC support:

- Physicians – 2 FTE

- Chief Nurse – 1 FTE
- Staff Nurses – 2 FTE
- Dental Hygienist – 1 FTE
- Process Improvement Coordinator – 1 FTE
- Medical Transcriptionist – 1 FTE

Typical tasks for each of these support individuals will be listed in subsequent sections, with the exception of the dental hygienist who shall perform standard dental related duties at the request of the Chief, FMC and additional duties as listed under the general tasks of FMC personnel.

3.1 INTRODUCTION

The primary mission of the Flight Medicine Clinic is to provide quality outpatient medical care for all active astronauts and their immediate family (i.e. spouse and unmarried children under the age of 23). Flight Medicine is also responsible for medical selection and retention certification of all flight crewmembers. Flight Medicine physicians and staff provide support for each short and long duration space mission in addition to the support provided to these crews before and following their missions.

The Contractor shall ensure that the above listed personnel resources are available in order to perform all of the daily clinical, diagnostic, examination, operational and administrative requirements involved with providing primary medical care to the JSC FMC for all of the patients authorized care in this clinic. The Contractor shall ensure that required staffing levels are maintained when the primary individual assigned to the activity is away from work for planned and unplanned absences.

The specific qualifications are detailed in Section J-9, Critical Positions List.

3.2 PHYSICIAN(S) DUTIES

Physicians assigned to the FMC will perform duties as assigned by the FMC, Chief. Typical tasks include:

- Providing clinical care to the astronauts, astronaut candidates, and AOD flying personnel as directed by the Chief, FMC.
- Performing Federal Aviation Administration (FAA) Aviation Medical Examiner (AME) examinations.
- Performing annual examinations on retired astronauts who return for their annual LSAH examinations.
- Providing primary and pediatric medical care to the families of the active astronauts.
- Performing periodic astronaut physical examinations related to flight and non-flight activities and astronaut dependent healthcare as directed by the Chief, FMC and required by NMI 8900.3, Astronaut Medical and Dental Observation, Study, and Care Program.
- Performing all diagnostic testing as directed by the Chief, Flight Medicine Clinic.
- Chairing the JSC Pharmacy and Therapeutics Committee and serving as Executive Secretary of the AMB.
- Functioning as the Lead of the FMC when the Chief, FMC is not available.
- Assisting with clinic policy development, updates, and revisions, and actively participating in the Flight Medicine Clinic's Process Improvement program.

3.3 NURSING DUTIES

Nursing personnel assigned to the FMC shall support daily operational and clinical activities under the direction of the Chief, FMC. The nursing staff will provide clinical care to all FMC patients, during both scheduled and unscheduled visits. In addition, one individual will be designated as Chief Nurse of the FMC. Typical tasks of the Chief Nurse include:

- Providing oversight of all nursing clinical practice in the FMC.
- Scheduling nurses for all clinic functions.
- Maintaining JSC FMC nursing credentials.
- Overseeing patient clinical education.
- Coordinating and staffing the FMC nurse contingency response plan.
- Scheduling, organizing, and coordinating the agenda and the minutes for the monthly FMC Staff Meeting.
- Providing orientation and mentoring of all FMC nurses.

3.4 PROCESS IMPROVEMENT COORDINATOR

The Process Improvement Coordinator shall be responsible for coordinating the process improvement efforts within the FMC for the purpose of achieving and maintaining, for the FMC, the standards outlined in the JCAHO Ambulatory Care Standards. Typical tasks which will be performed by the process improvement coordinator include:

- Serving as the focal point in the FMC to document, codify, and track all new FMC initiatives to meet or exceed the JCAHO Ambulatory Care Standards.
- Managing and overseeing the credentials of all NASA physicians providing medical care in the FMC. This credentials management process will include primary source verification.
- Coordinating the development, implementation, and revisions of all JSC FMC policies and procedures.
- Managing the biannual FMC Patient Satisfaction Survey, and managing and tracking to resolution all positive and negative patient feedback.
- Serving as the point of contact for all external audits and inspections in the FMC.
- Scheduling, organizing, and coordinating the minutes for the periodic FMC Ombudsman Meeting.
- Generating the Credentials Report, the Flight Medicine Clinic Metrics Report, and the JCAHO Compliance Report.

3.5 MEDICAL TRANSCRIPTIONIST

Typical tasks which will be provided by the medical transcriptionist include:

- Ensuring the completion of all administrative tasks associated with all physical examinations.
- Developing the weekly Physical Examination Status Report.
- Transmitting data to the FAA and designated branches of the US Military Services relative to flight certification and period physical evaluations.
- Completing necessary paperwork on FAA physicals to ensure proper FAA certifications.
- Transcribing physician's examination notes.

3.6 HEALTH STABILIZATION PROGRAM

The Contractor shall implement the requirements of the Health Stabilization Program as defined in JSC 22538. This shall include primary contact physical examinations, program promotion, and appropriate administrative requirements. The Health Stabilization Program ensures that assigned astronauts are protected from potentially contagious diseases prior to flight.

3.7 GENERAL ADMINISTRATIVE TASKS

As part of the support to the FMC, the contractor shall perform a number of duties as assigned by the Chief, FMC. These activities may be performed by one or more of the contractor staff. Examples of these tasks include:

- Serving as the FMC Infection Control Monitor coordinating the development, implementation, and revision of all JSC FMC Infection Control policies and procedures.
- Auditing and evaluating the JSC FMC operations to ensure compliance with all applicable FMC policies and procedures.
- Providing oversight of the ordering and stocking of clinic supplies.
- Coordinating and ensuring the timely disposition of all in house and outside diagnostic testing and consultations for FMC patients.
- Filing insurance claims as appropriate for outside astronaut medical costs.
- Performing quality assurance reviews on all annual physical examinations and all clinic patient visits.
- Participating, to the level directed, in at least the following meetings and committees as assigned:
 - ◆ Executive Committee of the Medical Staff (ECOMS)
 - ◆ Clinic Ombudsman Meeting
 - ◆ All Docs Meeting
 - ◆ Pharmacy and Therapeutics Committee
 - ◆ Clinic Staff Meeting
 - ◆ Clinic Safety Meeting
 - ◆ Aerospace Medicine Board
 - ◆ Hearing Conservation Executive Committee

3.8 ASTRONAUT SELECTION SUPPORT

The contractor shall support a number of activities associated with the periodic selection of new astronaut candidates. The specific tasks will be defined by the Chief, FMC. Typical tasks will include:

- Assisting administratively with all aspects of astronaut selection as required and outlined by the Chief, Flight Medicine Clinic.
- Performing a thorough dental evaluation on all of the astronaut candidates at the time of astronaut selection.
- Performing a thorough optometric evaluation on all of the astronaut candidates at the time of astronaut selection.

3.9 ADDITIONAL MEDICAL REQUIREMENTS

(a) Operation of Dental Clinic - The Contractor shall manage and operate the JSC onsite Dental Clinic. This clinic provides clinical dental care and consultations for astronauts, AOD flying personnel, NASA flight surgeons, and astronaut family members

(on a space available basis), as well as, research dedicated to the identification and resolution of potential dental problems in human space flight.

(b) Operation of Optometry Clinic - The Contractor shall manage and operate the onsite JSC Optometry Clinic. The optometry clinic provides optometric care and consultations for astronauts, AOD flying personnel, NASA flight surgeons, and astronaut family members (on a space available basis), as well as, research dedicated to the identification and resolution of potential optometric problems in human space flight. All astronaut prescription eyewear as needed for general and specific operational tasks shall be provided as directed by the optometrist and the Chief, FMC.

(c) Psychiatric Support - The Contractor shall administer payment for the costs for all psychiatric care of astronauts, cover the costs for all outpatient psychiatric care for astronaut dependents, cover the costs for psychiatric coverage for aeromedical evaluations when the NASA flight surgeon psychiatrist is not available and, as required by the Chief, FMC, for other patients' mental health needs.

(d) Payment of Astronaut Medical Bills - The FMC contractor is responsible for administering the payment of costs of outside astronaut medical bills. The contractor is expected to administer the payment of these costs under a reimbursable agreement with the government. Efficiencies and methods for reducing and controlling the costs of outside medical care will be considered. Typically, the contractor is expected to:

- Pay all astronaut medical bills and medically related astronaut selection costs.
- Provide oversight, quality control, and an assessment of reasonableness of such bills, and shall ensure timely payment of FMC patients' bills. Any bills thought to be unreasonable or questionable shall be brought to the attention of the Chief, FMC.
- Produce a monthly report of all astronaut and AOD medical bills paid through this contract to the Chief, FMC, as outlined in the DRD. Astronaut and AOD medical bills shall be reported separately.

For the purpose of this contract, dental, optometric, psychiatric services described above, and AOD qualified medical bills are considered to be a part of astronaut medical bills. The services provided by the dental hygienist are not included in these bills and are instead contained in the level of effort portion of the contract.

4.0 HUMAN TEST SUPPORT PROGRAM

4.1 GENERAL INTRODUCTION

The Contractor shall plan, coordinate, and supervise the medical support to human testing and training programs in altered pressure and hazardous environments at JSC, and as required, at sites remote to JSC.

4.2 GENERAL ACTIVITIES

The Contractor shall:

- Attend and participate in planning, pretest, and review meetings, safety and team briefings, drills, wet-runs, dry-runs, and altitude runs for all testing involving humans.
- Monitor test schedules and coordinate required medical support. Depending on the test, the Contractor shall be required to support test activities either in continuous station support, irregular or staggered tours of duty, or on call or "standby" status for various intervals and report to work as required to facilitate the test.
- Participate in reviews, briefings, and boards for test and facility readiness.

- Perform on-station monitoring for all human and hazardous testing.
- Maintain the medical reference library by updating technical manuals, directives, and medical records. This includes standard and general operating procedures, system level procedures, work instructions, and various test documents available in the work areas.
- Prepare and maintain the necessary medical equipment to support testing including pretest preparations, operation, post-test checkouts, and storage.
- Provide preflight briefings to subjects and test team members on potential health hazards and symptom recognition, as requested by JSC FMC or the crew flight surgeon.
- Collect and maintain biomedical, physiological, training, and test data on the crewmembers.
- Analyze data and prepare graphs and reports.
- Provide ECG samples and other pertinent physiologic performance data to the crew flight surgeon.
- Maintain pertinent training and medical data documentation records and databases regarding medical support for all test operations. This includes data from medical examinations, medical training, certifications, studies, presentations, and test medical data.
- Maintain medical supplies and equipment, including necessary drugs, in the Test Support Emergency Rooms located in Buildings 7, 32, and at SCTF.
- Perform all necessary pre- and post-test physical examinations in support of human testing.
- Provide emergency medical care and treatment of individuals involved in test operations. As appropriate, JSC Occupational Medicine Clinic and emergency response systems are used for additional medical resources.

4.3 MEDICAL SUPPORT TO VACUUM AND THERMAL VACCUM HUMAN TESTING

The purpose of vacuum testing is to evaluate human and hardware response in the absence of an atmosphere or at a specific temperature or pressure.

The Contractor shall perform the following activities in support of vacuum and thermal vacuum human testing:

- Provide preflight briefings to chamber subjects and test team members on potential health hazards and symptom recognition of conditions (e.g., Decompression Sickness (DCS), hypercapnia, hypoxia, frostbite).
- Assist physician in conducting pre- and post-test physical examinations on participants, including astronauts, test subjects, and test participants, such as rescue technicians and lock observers.
- Observe, when required, the application of biomedical sensors on test participants, to ensure proper placement.
- Implement policies for the monitoring, suiting, and medical examination of test subjects.
- Provide hyperbaric chamber standby readiness with emergency medical support during vacuum test activities, which may be conducted through second shift and weekends.

The Chambers currently used for human testing are the following:

- Chamber “A” or “B”, Building 32, for suit and hardware thermal vacuum tests
- 2-foot Chamber, Building 7, for glove thermal vacuum tests
- 11-foot Chamber, Building 7, for suit and hardware vacuum tests
- Environmental Test Article (ETA)/Airlock Chamber, Building 7, for Shuttle cabin and astronaut suit vacuum tests
- Space Station Airlock Test Article (SSATA) Chamber, Building 7, for ISS airlock and astronaut suit vacuum tests
- 20-foot Chamber, Building 7, for advanced life support systems tests
- 10-foot Chamber, Building 7, for advanced life support systems tests

4.4 MEDICAL SUPPORT TO HUMAN TESTING AND DIVING ACTIVITIES AT THE NEUTRAL BUOYANCY LABORATORY (NBL)

JSC conducts reduced gravity testing and training at the NBL. The purpose of the medical program support to NBL activities is monitoring and ensuring the health and well-being of test participants (suited subjects) and all support personnel. The Contractor shall perform the following activities:

- Prepare and present regular medical safety briefings to NBL staff and divers.
- Conduct pre- and post-test physical examinations on personnel entering the water at the NBL. Personnel include astronaut crew members, test subjects, divers, and observers.
- Monitor personnel while they are in the water, and in treating any accidents/illnesses during NBL test activities.
- Provide hyperbaric chamber standby readiness with emergency medical support during all diving activities whenever these activities occur.
- Conduct medical oversight of second “configuration” shift activities at the NBL with, at a minimum, the skills and certifications associated with TDSHS certified Paramedics, and aerospace physiologists. Contractor personnel shall have the capability of recalling appropriate resources as necessary.
- Establish an MOU with the NBL/Space Vehicle Mockup Facility (SVMF) Operations Contractor (NSOC), authorizing designated NSOC Contractor personnel to begin emergency hyperbaric treatment during off hours, while recalling OMOHC personnel.
- Respond within 30 minutes to any recall notification of OMOHC personnel in the event that hyperbaric chamber operation is required during off-hours.
- Participate as a subject matter expert (e.g. medical, hyperbaric, human factors) in Test Readiness Reviews (TRRs), training drills, etc.
- Provide ASDMB support that includes but is not limited to chairman, review of physical examinations results, determination of fitness for duty, and evaluation of incidence response.
- Provide initial diagnosis and treatment of minor injuries and illnesses reported at the NBL Human Test Support Emergency Medicine Clinic. All suspected work related injuries and illnesses shall be managed following established JSC injury/illness case management processes.
- Report all incidents and medical treatments per SOW, Sections 1.3.7 and 2.2.1.

4.5 MEDICAL SUPPORT FOR OTHER JSC FACILITIES AND PROGRAMS

4.5.1 Medical Support for Micro-Gravity Research Flights

Micro-gravity (zero-G) flights evaluate human performance and hardware response in reduced gravity. The Contractor shall perform the following activities:

- Provide in-flight medical team members on Zero-G flights.
- Train and certify all personnel on Zero-G flights, including U.S. and foreign citizens (scientists, investigators, test subjects, students, astronauts, cosmonauts, European Space Agency (ESA) astronauts, etc.)
- Maintain health/physiological database and training records on personnel who are qualified to participate in JSC altered pressure environment activities. This includes personnel not stationed at JSC who participate in microgravity flights, neutral buoyancy laboratory activities, and vacuum and thermal vacuum chamber activities.

4.5.2 Hyperbaric Treatment Chambers

The Hyperbaric Treatment Chambers are utilized for emergency treatment of suspected or actual decompression sickness (DCS). The hyperbaric chambers are currently located at JSC and at SCTF. The Contractor shall perform the following medically related activities:

- Provide hyperbaric chamber emergency medical treatment for NASA activities as required and, on occasion, for victims referred from local hospitals or private physicians, and for military aviators referred from Ellington Field. Typically, this is treatment for DCS, carbon monoxide (CO) poisoning, etc.
- Operate the hyperbaric therapy chamber at all crew positions. Personnel shall be cross-trained for all crew positions.
- Maintain the chamber in proper operating condition per JSC 26964, NBL Hyperbaric Chamber SOP. This includes performing minor or preventive maintenance and repair on the Hyperbaric Chamber, oxygen equipment, and other associated equipment.

4.5.3 Physiological Training Program

The Physiologic Training Program utilizes classroom and hypobaric ("Altitude") chambers at JSC and SCTF to educate personnel on the hazards of altered pressure environments. The Contractor shall conduct the Physiologic Training Program, in accordance with JPD 1830.2, Physiological Training Program, at a minimum monthly, and additionally as needed to meet the training needs of JSC.

Personnel participating in the Physiologic Training Program include astronauts; payload specialists; test investigators, test directors, and test subjects; inside chamber and lock observers; NASA aircrew members (pilots, flight engineers, test conductors); safety officers; video and still photographers; "Zero-G" test conductors; suit technicians and engineers; NBL divers; and students (high school, college, and university) participating in human test areas.

4.5.4 Medical Research and Special Projects

The Contractor shall assist and support medical research and special projects as needed. These special projects may include, but are not limited to, DCS Studies and Pre-breathe Protocol Studies. The Contractor shall provide the following:

- Operate hyper/hypobaric chambers for investigators using the chambers for human research.
- Provide chamber and emergency procedures familiarization briefings to all subjects in research projects.
- Conduct tests as requested in the medical chamber facilities, such as the hyperbaric and altitude chambers.

4.6 ADDITIONAL HUMAN TEST AND FLIGHT SUPPORT ACTIVITIES

4.6.1 Flight Support Activities

The Contractor shall provide medical support for other test and flight related activities for JSC and SCTF. The Contractor shall:

- Certify that all personnel assigned to a flight manifest meet JSC requirements for up-to-date physicals and physiological training.
- Screen all Air Force Flying Class III flight physical examination requests and assist in physical requirement definitions for various certifications.
- Provide and maintain aircraft first-aid kits for all NASA aircraft assigned to Ellington Field. Inspect, refurbish, and repack the FMC Aircraft Mishap Response Kits and the Remote Site training medical support kits.
- Conduct tours and lectures of medical chamber facilities, support teacher workshops, and perform related events in conjunction with the Public Affairs Office (PAO), or as directed by the COTR.
- Provide technical expertise in various Accident Investigation and Incident Boards involving medical problems, accidents, or incidents, including aircraft, chamber, testing, and other boards as assigned.

4.6.2 Medical Training

The Contractor shall provide medical training for personnel involved in Human Test Support, Crew Training and Flight Operations. The Contractor shall:

- Provide First Aid lectures to astronauts, flight personnel, and personal equipment specialists.
- Conduct CPR and AED training for astronauts, equipment specialists, physicians, nurses, paramedics, and other healthcare providers.
- Train hyperbaric chamber operators at JSC and other NASA centers.
- Provide training certification and re-certification of medical personnel involved in human testing, including proficiency runs in the hypobaric and hyperbaric chambers.

4.7 TRAINING AND PROFICIENCY FOR HUMAN TEST SUPPORT PERSONNEL

The Contractor shall ensure that all personnel involved in Test Support activities are provided with continuing proficiency training to ensure updated skill capabilities and readiness for their assigned duties.

The Contractor shall ensure that, at a minimum, all Test Support physicians receive an annual hyperbaric recertification training course.

The Contractor shall ensure that all aerospace physiologists participate in at least one week of proficiency training, once every two years.

The Contractor shall ensure that the continuing medical education needs of all Paramedics are met to maintain Texas Certification.

At least every six months, the Contractor shall ensure the competence of non-physician Human Test Support Group personnel required to perform advanced life support tasks. This includes, but is not limited to, intravenous fluid administration, endotracheal intubation, static and dynamic ECG recognition, and medication administration.

The Contractor shall document all training and shall make this documentation available upon request of the COTR.

5.0 OCCUPATIONAL HEALTH PROGRAM

5.1 GENERAL INTRODUCTION

The Occupational Health Program is concerned with the management, assessment, control and prevention of hazards and exposures to biological, chemical, and physical (radiation, heat, noise, ergonomic, etc.) hazards. The Occupational Health Program includes the fields of industrial hygiene, hazard communication (HAZCOM) and health training, radiological health, environmental surveillance, ergonomics, emergency response, and environmental health laboratory (EHL) activities. The Contractor shall perform the Occupational Health Program functions for JSC civil service and contractor personnel. JSC includes Ellington Field, SCTF and other locations in the Clear Lake area as defined by the COTR. WSTF support is outlined in section 6.0. Specific project support may occur after hours and on weekends.

5.2. INDUSTRIAL HYGIENE

The Industrial Hygiene (IH) function consists of the recognition, evaluation, and control of those environmental factors or stresses, arising in or from the work place which may cause illness, discomfort, or potential impairment of health and well being. The Contractor shall perform IH functions in the following areas:

5.2.1 Industrial Hygiene Exposure Assessments

The Contractor shall conduct surveys, studies, investigations, and follow-up to identify, evaluate, and control chemical, physical, or biological agents which may be encountered in the work environment and to determine compliance with applicable laws, appropriate guidance and accepted industry standards.

The contractor shall be proactive and shall work cooperatively with other contractors to accomplish these functions to assure compliance. The contractor shall conduct a site wide baseline industrial hygiene exposure assessment, within one year of contract start. The contractor may use any and all previous studies and records, in addition to data gathered during workplace health inspections, to develop such assessments.

The contractor shall develop a sampling plan and strategy to be used to direct further work. Upon concurrence by the COTR, annual exposure assessment and sampling strategy shall be placed on the JSC Homepage for reference. The contractor shall perform the annual worksite assessment in accordance with the agreed upon sampling plan and strategy.

The Contractor is responsible for acquiring any known monitoring records collected by contractors other than the OMOH Contractor. The Contractor shall communicate all

exposure monitoring results to the affected employees within timelines established by specific standards or recommended guidance.

5.2.2 Facility Design Review

In order to assess any potential health hazards associated with the new construction, renovation, modification or demolition of JSC facilities, the Contractor shall review all facility engineering designs and plans. The Contractor shall ensure that all personnel conducting design reviews have the required expertise. This is anticipated to include all facility design initiated by COD, Construction of Facilities (CoF), Work Authorization Directive (WAD) and, on a limited basis, other JSC Directorate level organizations. The Contractor shall act as the health consultant on these projects throughout planning, design, procurement, construction, and acceptance phases.

5.2.3 Illness Investigation

The Contractor shall investigate and report the circumstances surrounding each case of suspected occupational illness or disease. Conclusions of any investigation shall be made in writing and reported back to the employee organization, Nurse Case Manager, COTR and as appropriate, placed in employee's medical file. The Contractor may be required to provide expertise in support of mishap boards.

5.2.4 Personal Protective Equipment

The Contractor shall provide guidance and recommendations, to JSC organizations concerning selection, use and control of PPE. The Contractor shall periodically review (during Workplace Health Inspections (WHI)) PPE use at the Center.

The Contractor shall conduct qualitative and quantitative respirator fit tests for NASA and contractor employees who wear respirators. The Contractor shall periodically review any other contractors who conduct their own respirator fit testing.

The Contractor shall provide IH standby support, as requested, in areas that have a potential health hazard due to the nature of the operation in progress.

5.2.5 Field Monitoring Equipment

The Contractor shall have on hand appropriate equipment (direct reading, immediate and long term) to monitor (Limits of Detection to the part per million or as necessary for the chemical) JSC workplaces for potential contaminants that may be generated from JSC operations, and those activities within close proximity that could affect JSC personnel. The Contractor shall properly maintain monitoring equipment and shall ensure that it is ready for use at all times and shall take no actions that would compromise emergency preparedness readiness. The Contractor shall ensure that all equipment is calibrated to manufacturer's or consensus standard recommendations.

5.2.6 Pesticide Program

The Contractor shall evaluate pesticide control measures, for compliance with applicable regulations. Review shall include handling (PPE) and application techniques, and any proposed changes in pesticides. The Contractor shall inspect JSC pesticide storage facilities, contractor programs, personnel certification and operations on an annual basis and make appropriate recommendations for program improvement.

5.2.7 Food Service Program

In order to assure compliance with applicable sanitation practices and to review food service contractor programs, the Contractor shall inspect all food service facilities and food vending operations. The Contractor shall ensure compliance with TDSHS sanitation standards, Hazard Analysis Critical Control Point (HACCP) guidance and personnel certification requirements and provide recommendations to the responsible operating organizations. The Contractor shall conduct inspections at least quarterly, and may be increased as directed by COTR. The Contractor shall perform inspections of food service activities at special events as directed by the COTR.

5.2.8 Hazard Reporting and Tracking

The Contractor shall utilize existing JSC electronic systems for hazard reporting and hazard abatement. The Contractor shall enter findings, compliance and as necessary "good practices" into HATS (or the current JSC hazard tracking system). The Contractor shall support the affected organizations in developing corrective actions and documenting closure.

5.2.9 Safety and Health Program Support

The Contractor shall lead or participate in (at the direction of the COTR) S&H committees, investigation teams or accident investigation boards. The Contractor shall also be actively involved in or lead standing JSC S&H forums and committees, such as the environmental stewardship, coordination, ergonomics, hazardous material, chemical inventory, or their working groups.

5.2.10 Workplace Health Inspections (WHIs)

To assure compliance with 29 CFR 1960 and to address occupational health issues in JSC facilities the Contractor shall conduct annual WHIs of all JSC facilities. The Contractor shall conduct inspections which include review of chemical use, employee chemical exposure and review of civil servant and all contractor written health programs. The Contractor shall document findings in a written report provided electronically to the appropriate personnel.

5.2.11 Confined Space Program

To assure compliance with 29 CFR 1910.1026 and to address occupational health issues, the Contractor shall maintain and oversee the JSC confined space program. This includes maintenance of the JSC confined space database, review of confined space entry procedures, and conducting entry monitoring at JSC confined space entries. The Contractor shall be responsible for overseeing the labeling of JSC confined spaces (labeling or ensuring that they are labeled). The Contractor shall also conduct annual confined space program evaluations and develop a written summary report.

5.2.12 Indoor Air Quality

The purpose of the JSC Indoor Air Quality Program is to maintain employee health and productivity. The Contractor shall conduct indoor air quality studies at the request of JSC management, facility users or as directed by the COTR. The Contractor's study shall be comprehensive and attentive to employees needs, utilizing professional resources from different functional areas within the OMOHC to investigate complex complaints. The Contractor shall: report findings to requestor and COTR; recommend

corrective actions; meet with employee groups and management to discuss findings; enter hazards into HATS database; and work with COD on corrective actions to achieve adequate closure.

5.2.13 Exhaust Ventilation Program

In accordance with applicable standards and guidelines, the Contractor shall perform periodic certification of all exhaust ventilation systems at the Center and review and approve all proposed systems and system modifications. The Contractor shall maintain an exhaust ventilation system database and shall provide information and reports as directed by the COTR.

5.2.14 Chemical Alarm Program

The Contractor shall operate and oversee the JSC chemical alarm program (JPG 1700.1). The Contractor shall periodically assess all systems on site, make recommendations, maintain a database, and provide information and reports as directed by the COTR. The Contractor shall chair the chemical alarm working group.

5.2.15 Hearing Conservation

To ensure compliance with all federal and NASA requirements, the Contractor shall operate the JSC institutional Hearing Conservation Program. The Contractor shall assess all work areas, identify and monitor all potential homogeneous exposure groups, identify specific hearing conservation program participants, investigate all potential threshold shifts and maintain all associated databases. The Contractor shall provide an annual report of hearing conservation program statistics and develop reports as directed by the COTR.

5.2.16 Imminent Health Threat

The Contractor shall immediately stop any operation which appears to represent a potential IDLH exposure or imminent health hazard. The Contractor shall immediately inform the organization responsible for the activity, the COTR, OHHTS, and the JSC EOC. The Contractor shall then support any activities to alleviate hazardous conditions and implement corrective actions.

5.2.17 Metrics

The Contractor shall provide periodic written reports including inventory, trending, and statistical analysis to the COTR, as required by the DRDs.

5.2.18 Ergonomics

In order to resolve computer workstation and other ergonomic issues, the Contractor shall manage and operate the JSC ergonomics program, utilizing standard IH practices. The Contractor shall lead the JSC ergonomics working group. The Contractor shall coordinate with COD Logistics to resolve workstation and furniture issues.

5.2.19 Chemical Hygiene

The Contractor shall audit chemical hygiene plans for facilities and organizations required to comply with 29 CFR 1910.1450, Occupational Exposure to Hazardous Chemicals in Laboratories. The Contractor shall assist organizations with the

development of chemical hygiene plans. The Contractor shall conduct periodic chemical hygiene reviews

5.3 ASBESTOS CONTROL

The Contractor shall manage all health and environmental aspects of the JSC asbestos control program in compliance with all applicable Federal, State and JSC (OSHA, TDSHS, Toxic Substances Control Act (TSCA), JPG 1700.1) requirements. Exceptions include EPA National Emissions Standards for Hazardous Air Pollutants (NESHAP) and TDSHS/TCEQ asbestos notifications, waste management and disposal and asbestos release clean up, which are managed by COD. The Contractor shall:

- Oversee activities of all other organizations that work with or disturb Asbestos Containing Materials (ACM) and organizations whose employees occupy facilities with ACM.
- Monitor all asbestos abatement and asbestos disturbance activities either through direct exposure and environmental monitoring or through oversight where other organizations conduct direct monitoring during asbestos disturbance activities.
- Conduct periodic employee exposure monitoring as per the developed industrial hygiene sampling strategy (all activities involving potential asbestos exposure and office personnel).
- Maintain all aspects of the asbestos information and locations database (currently found in the JSC S&TH Webpage). Database shall be kept current with any updated asbestos removal information, environmental sampling results, "negative" suspect asbestos materials, additional asbestos containing materials, etc.
- Conduct annual ambient environmental monitoring and inspections in facilities (including mechanical rooms) with spray applied ACM and asbestos containing ceiling tile (as found in the JSC asbestos locations database).
- Conduct quarterly environmental monitoring and inspection in areas with exposed asbestos containing acoustical insulation (as found in the JSC asbestos locations database).
- Conduct qualitative and quantitative analysis, by transmission electron microscopy, of all asbestos sample results exceeding 0.01 fibers per cubic centimeter. The Contractor shall respond to the COTR and project managers with sample results within agreed upon time limits.
- Support all facility construction, modification, renovation, and demolition activities as they pertain to asbestos.
- Provide an annual report of asbestos related activities, including environmental and personal data collection, spill response, visual inspections and analysis, etc.
- Respond to all reported suspected spill/releases of ACM. The Contractor shall assess and characterize all such events, make recommendations for occupant protection, spill clean-up, workplace clearance monitoring (as necessary) and return back to occupants, for resumption of normal operations. The Contractor is responsible for releasing worksite back to user following spill response and Center Operations clean up. The Contractor shall ensure that NASA OHHTS office is notified when workplace spills are reported. The Contractor shall keep and maintain statistics on all spills for program assessment.
- Place and maintain all asbestos identification signs throughout the Center, as required by OSHA, EPA, applicable State, NASA and JSC regulations.

5.4 RADIOLOGICAL HEALTH

This function consists of program activities to assure JSC compliance with ionizing and non-ionizing radiation requirements and standards. The Contractor shall manage the institutional radiation safety program in compliance with applicable Federal (NRC, OSHA, NASA, JSC (JPD 1860.4 Radiological Protection Policy, JHB 1860.2 Radiological Health Manual) and State Regulations. The Contractor shall:

- Ensure that individuals, who are designated as Radiation Safety Officer, possess the required certifications per NRC requirements, to act as the JSC Radiation Safety Officer (RSO).
- Conduct all administrative requirements for the JSC Radiation Safety Committee.
- Prepare, submit, maintain, and update all applications and licenses with the NRC on behalf of JSC. The Contractor shall communicate with the NRC on behalf of JSC and manage all aspects and requirements of the JSC NRC license.
- Prepare all reports to external agencies or organizations required of the JSC Radiological Health. The Contractor shall submit such correspondence to OHHTS and the COTR for coordination, concurrence, and signature by the responsible NASA office.
- Perform site survey of radiation sources for the purpose of developing a site hazard assessment, periodic sampling strategy, and exposure monitoring database.
- Perform comprehensive surveys and submit reports of findings, conclusions, and recommendations for the use of ionizing and non-ionizing radiation.
- Review proposals and provide health hazard analysis of radiation uses and plans for related facilities and equipment. This shall include review of certain purchase requests, radiation use requests, and radiation work permits.
- Provide radiation safety training (ionizing and non-ionizing).
- Provide recommendations to JSC and designated contractors in such areas as regulatory requirements and application for use of radiation sources.
- Maintain and provide inventory records of radiation sources under the administrative control of JSC. All inventories shall be placed in the JSC hazardous material database.
- Maintain a central laboratory and counting facility in Building 263 and 263A, for use by authorized JSC and contractor personnel in the performance of radiochemical analyses and other radiological procedures.
 - ◆ Labeling and supervision of radioactive material being shipped to or from JSC in accordance with U.S. NRC regulations and DOT regulations, as applicable.
 - ◆ Leak testing of sealed sources.
 - ◆ Collection, preparation, and analysis of environmental samples to determine levels of radioactive contamination.
 - ◆ Management of dosimetry devices.
 - ◆ Calibration of radiological monitoring instrumentation.
- Perform radio assays for identification and qualification of radio nuclides in biological specimens and potable water samples as furnished by the Clinical Medicine staff or the IH staff.
- Supply and distribute radiation caution signs, labels, notices, and instructions.
- Perform malfunction analyses of radiological equipment and recommend corrective measures and repairs. Advise users on the operations, maintenance, and repair of radiological instrumentation and equipment. The Contractor is responsible for the upkeep and maintenance of all necessary equipment to conduct business.

- Collect, package, and dispose of all radioactive waste in accordance with transportation and disposal regulations. Disposal shall be coordinated with the COTR, JSC Environmental Services, and JSC Transportation Office. The Contractor shall conduct audits of all disposal and transportation service providers by site inspection, and inquiry to local, State and Federal agencies. The Contractor shall provide recommendations to the COTR for concurrence prior to any radiation waste transportation and disposal.
- Provide personal dosimetry devices appropriate for the type of radiation (x-ray, alpha, beta, gamma, neutron, etc.). Procedures shall be in accordance with monitoring requirements of 10 CFR 20. Appropriate exposure records shall be maintained.
- Provide radiological health services for launch and research operations and activities associated with any payload, medical, or toxicological experiment involving radioactive materials for nuclear material contingency plans or other requested project support. This will require travel to launch sites and cooperative effort with the radiation protection staff of other centers and other government agencies.
- Review and maintain all NASA, JSC, NRC and appropriate radiation health requirements, manuals, etc.
- Conduct radiological testing or monitoring on site waste water discharge and on any below grade locations (radon) as directed by COTR.
- Manage and implement the JSC Laser Safety Program, and act as the JSC Laser Safety Officer as defined by NASA Occupational Health Program Requirements, NPR 1800.1, the JSC Safety and Health Handbook, JPG 1700.1, the NASA Safety Manual, NPR 8715.3, or other applicable adopted standard.
- Conduct all activities necessary for the oversight and management of non-ionizing radiation sources at the Center.

5.5 HAZARD COMMUNICATION (HAZCOM)

This function consists of conducting a hazardous chemical management and educational information program at JSC for the purpose of compliance with applicable regulations and standards. The Contractor shall conduct this program in accordance with OSHA "Hazard Communication" Standard (29 CFR 1910.1200); EPA "Emergency Planning and Community Right-to-Know Act (EPCRA, 40 CFR 302 & 311 to 313); and the TDSHS (Tex. Health & Safety Code Ann. Ch. 505-507).

Specific contractor support requirements include the following:

- Provide education and training in the identification, evaluation and communication of chemical hazards in the workplace, as required by the OSHA Hazard Communication Standard, as well as any JSC general and hazard specific training.
- Maintain and update monthly an electronic Material Safety Data Sheets (MSDS) information database for JSC facilities with the ability to provide and distribute electronic and hardcopy MSDSs upon request. The Contractor shall also ensure that JSC MSDSs are available electronically, in scanned PDF format, available for download by JSC employees or organizations from the JSC Total Health Home Page.
- Assist JSC organizations in the non-routine acquisition of MSDS.
- Assist JSC organizations in the proper inventory, listing, and reporting of chemical products in their respective workplaces. Support and assist with improving chemical inventory management (e.g. utilizing hand held computerized systems to perform real time inventories).

- Update chemical inventory quarterly.
- Acquire specific information on “Trade-Name” products for purposes of emergency or first aid treatment.
- Provide technical assistance to other organizational elements in the final implementation of all health aspects of the OSHA HAZCOM Standard and the JSC HAZCOM Program.
- Prepare and submit JSC chemical inventory Reports. The Contractor shall ensure the integrity of data and reports submitted. Examples of reports include: the TDSHS Tier II annual hazardous chemical inventory report, EPCRA Toxic Release Inventory (TRI) Form “R” report, and the TECQ Annual Air Emissions Inventory State Implementation Plan (SIP) report. All reports shall be submitted through the COTR and JSC Environmental Services.
- Participate in working groups to manage and direct JSC’s hazardous materials program for identifying and reducing, substituting or eliminating hazardous materials across JSC facilities.
- Serve as an active member of the JSC Environmental Stewardship committee providing expertise for development and implementation of environmental policy at JSC.

5.6 OCCUPATIONAL HEALTH TRAINING

This function consists of conducting an occupational health training program at JSC to ensure compliance with applicable JSC, NASA and applicable federal standards.

The Contractor shall provide health training in all areas of Occupational Health and Medicine, including but not limited to: hearing conservation, respiratory protection, ergonomics, laboratory safety, asbestos awareness and class III and IV asbestos worker, CPR, first-aid, AED, blood-borne pathogens, and confined space entry. Training shall be conducted by technically qualified personnel. All trainers shall have field expertise in the subject area in which they are conducting training.

All training shall meet Federal, JSC, or certifying organization’s requirements. Health training class offerings shall be published on JSC S&TH homepage and other venues to ensure employees have access for scheduling. The Contractor may propose computer-based training classes, however, these shall be offered only if they can be demonstrated to meet applicable compliance, and with COTR approval.

All training records shall be maintained by the Contractor and available for review and provided to organizations at their request. Records shall include, at a minimum, attendance, date of class and expiration, result of training (pass, fail, attended) and the results of any certification (if applicable). The Contractor shall support JSC Safety, Environmental and Human Resources in the development of any common training database. The Contractor shall implement appropriate privacy measures for training records.

The Contractor shall develop JSC specific health training to be administered by outside training providers, such as the Association of Reciprocal Safety Councils (eg Houston Area Safety Council). This outside administered training allows JSC construction contractors to receive S&H training prior to working on-site at JSC.

5.7 ENVIRONMENTAL SURVEILLANCE

This function consists of program activities to assure JSC compliance with environmental laws in the areas of water and air pollution, hazardous waste, and as

applicable, asbestos workplace monitoring. Collection, processing, analysis, quality control, and reporting of sample results required by EPA, TCEQ, and TDSHS regulations must be consistent with regulatory requirements. All processes from receipt of sample requests to issuance of reports shall be under the direction of the EHL. The Contractor shall:

- Conduct a program of ground water monitoring in accordance with Federal and State remediation, restoration, and monitoring requirements for all areas of identified past contamination.
- Support a program of soil and ground water (including surface streams and ditches) contamination assessment at JSC, SCTF and Ellington Field, and conduct statistical analyses for identifying trends in contaminant concentrations.
- Collect and analyze wastewater effluent from "Manhole M" and other locations as directed by COTR, in accordance with the schedule specified by EPA, TCEQ and Clear Lake City Water Authority (CLCWA) permit conditions.
- Conduct a program of Federal, State, and local regulatory compliance monitoring for potable and bottled water, waste water discharges, and hazardous waste treatment, storage and disposal.
- Sample and analyze potable water in response to employee complaints.
- Support the COD Facility Engineering Division by obtaining all required EPA, TCEQ and TDSHS drinking water samples for analysis.
- Provide reports to the COTR and COD Facility Engineering Division with recommendations for cleaning, repair, refurbishment or replacement of drinking water components to assure the healthful quality of onsite potable water.
- Sample, analyze and characterize all TCEQ Industrial Solid Wastes at JSC.
- Sample and analyze JSC air emission sources to determine compliance with EPA, TCEQ, TDSHS, and applicable local regulatory requirements.
- Sample and analyze hazardous chemical spills to determine when clean up is necessary and complete.
- Determine the characteristics and recommend disposition of unidentified hazardous wastes.
- Update and maintain an inventory (including location) of all hazardous facility and equipment components (as required by DRD).
- Monitor for *Legionella* in onsite cooling towers and other outdoor and indoor sources. Sampling shall be conducted semi-annually and as necessary, when counts are elevated.
- Conduct lead testing in JSC facilities or test equipment as requested for facility modification, project support or as requested by any facility.

5.8 ENVIRONMENTAL HEALTH LABORATORY (EHL)

The Contractor shall operate onsite at JSC an EHL for the purposes of performing chemical and physical analyses of: industrial hygiene, environmental and breathing gas samples. This includes personal breathing zones, ambient air, stack emissions, breathing gases, industrial atmospheres, potable water, waste water, industrial chemicals, soil, ground water, vegetation, biological specimens, food and drugs, and other substances as directed by the COTR.

The Contractor shall conduct all field sampling, preservation, processing, analysis, and quality control of all environmental samples in accordance with EPA, TDSHS, or other agency regulatory requirements and recommended guidance materials. All environmental samples from collection to final report stage shall be conducted under

either project specific or media specific Sampling and Analysis Plan and Procedures (SAPP), and Quality Assurance Plans and Procedures (QAPP).

The Contractor shall:

- Achieve American Industrial Hygiene Association (AIHA) accreditation for the laboratories, within one year of contract start.
- Achieve accreditation by the National Environmental Laboratory Accreditation Commission (NELAC), within one year of contract start.
- Pursue and maintain EPA, TCEQ, TDSHS or equivalent drinking water laboratory certification.
- Perform tests on biological specimens submitted by the OMC or Occupational Health staff to measure exposures to occupational contaminants.
- Analyze every bottle or container of JSC Logistics procured breathing gases and as directed by COTR, from other sources.
- Document all laboratory analyses in a format suitable for individual personnel records, group evaluations, or statistical analysis.
- Certify the quality of compressed gases in accordance with applicable specifications, based on samples collected and submitted to the laboratory by personnel from operational use points. Test results shall be provided to the user and maintained in permanent records.
- Analyze bulk and asbestos air samples materials
- Submit monthly laboratory metric summaries per DRD.
- Participate at least annually in a regulatory or recognized Lab Audit Analytical Evaluation Testing program for drinking water contaminants, hazardous wastes, asbestos, and other constituents of health and regulatory concern at JSC facilities.
- Manage, maintain and update the Laboratory Information Management System (LIMS) and the active and archived analytical data records. The Contractor shall ensure that the LIMS is capable of exporting data in a NASA JSC supported commercial off the shelf (COTS) software, i.e. Access, Excel, for statistical manipulation.
- Conduct laboratory evaluation audits of offsite reference laboratories of all new subcontract labs and annually for all currently used reference labs.
- Document and maintain a strict cradle-to-grave "Chain-of-Custody" for all samples.
- Manage a laboratory analytical testing program to meet requestor's turnaround times for receipt of draft and final data packages (routine to rush), and requested Quality Assurance (QA) package level (1-5).
- Demonstrate that all environmental samplers, [EHL, IH, HAZCOM personnel, etc.,] meet environmental regulatory training, i.e., Resource Conservation and Recovery Act (RCRA), and Hazardous Waste and Emergency Operations (HAZWOPER) as applicable, and demonstrate proficiency in collection of groundwater, asbestos, hazardous wastes, etc.
- Provide and manage a comprehensive EHL Quality Assurance and Quality Control program.

6.0 WHITE SANDS TEST FACILITY

6.1 GENERAL INTRODUCTION

The Contractor shall operate the WSTF onsite occupational, emergency and preventive medicine clinic. The Contractor shall also operate the WSTF onsite industrial hygiene

and field occupational health program. The Contractor shall operate in accordance with all applicable Federal, agency, state, and local regulations and standards including JSC 1700.1 and NPD 1800.1.

The purpose of the programs are to monitor the general health and well being of the WSTF workforce, to ensure personnel are fit and able to perform assigned duties, and assist in employee health awareness and improvement potential. Medical and health services shall be provided to each WSTF NASA and contractor employee consistent with the potential hazards associated with their individual duties and workplace. Physical examinations shall be provided in support of occupational health maintenance programs and OSHA mandated programs such as respiratory protection, asbestos handlers, and heavy equipment operators.

The Contractor shall also perform industrial hygiene program management to ensure workplace conditions are monitored and resulting data is integrated with employee health maintenance efforts.

6.2 OCCUPATIONAL AND PREVENTIVE MEDICINE CLINIC

The Contractor shall:

- Maintain first shift availability (7:00am to 3:30pm, Monday through Friday) of a medical clinic to provide emergency first aid, care for accidental injuries, and treatment for relief from minor illnesses, whether job incurred or not.
- Provide treatment for minor illnesses; e.g., colds, headaches, sore throats, whether job incurred or not. Treatments, including prescription and over-the-counter drugs, will be limited to symptomatic medical care.
- Provide diagnostic and medical treatment, primarily of a first aid nature to onsite civil service and contractor personnel, who have an on-the-job injury or have an occupational illness. For suspected cases of occupational illness or injury, the individual shall be referred to the employer's designated occupational physician.
- Act as NASA civil service occupational physician for the purpose of managing work related injuries and illnesses.
- Ensure availability of preventive occupational health measures such as immunizations or injections.
- Provide medical surveillance and fitness for duty examinations for personnel directly involved in occupations as defined in JSC 1700.1 or WSTF specific requirements, e.g., odor panel, respiratory protection, asbestos abatement, and heavy equipment operations.
- Conduct injury/illness case management for all suspected occupational injuries and illnesses. Report any suspected occupational exposures to the Chief, WSTF Quality Assurance, Reliability, and Safety Office (QARSO); the WSTF Industrial Hygienist; and the OMOHC COTR.
- The Contractor clinical personnel may be required to provide expertise for any mishap involving injury or illness. Occupational health contractor field personnel shall investigate all suspected or actual exposure and illness incidents.
- Perform annual physical examinations on all employees.
- Conduct an employee wellness program including:
 - ◆ A wellness library including current pamphlets and information on common physical and mental health, substance abuse, and physical fitness topics.
 - ◆ Education and awareness on current health topics.

- ◆ General wellness and weight monitoring and consultation including recommendation of fitness regimen and employee assistance when required.
- ◆ Annual clinic visits for cholesterol, blood pressure, weight check, medical history update, and licensed medical doctor consultation.
- ◆ Recommendations of appropriate medical testing and analysis based on age, medical history, and wellness factors as provided by licensed medical doctor.
- ◆ Ongoing medical screening to follow up on problems, specialized risks, or workplace hazards as indicated by medical history or licensed medical doctor.
- The Contractor shall ensure confidentiality, continuing availability, and integrity in their management of the WSTF medical records. While NASA is not required to be HIPAA compliant at this time, the Contractor shall meet the standards required by HIPAA and shall develop and implement processes compliant with HIPAA and the Privacy Act of 1974 in their management of patient medical records.
- Provide consultation on NASA Occupational Health initiatives, policies, and directives and provide implementation options to WSTF Management and the Chief, WSTF QARSO.
- Provide EAP services to NASA WSTF personnel consistent with requirements defined in SOW Section 2.6.8.
- Perform quarterly medical assessment of the WSTF Occupational Health Program for compliance with agency, JSC, New Mexico occupational health requirements, and submit report to JSC OHHTS, WSTF Management, and the Chief, S&MA-WSTF.
- Manage and implement all site occupational health promotions and VPP certification activities as directed by QARSO and OMOHC COTR.
- Provide responses to NASA HQ OCHMO and JSC OHHTS, surveys, annual reports, and data and metrics requests.
- Ensure that any Contractor physician assigned to WSTF support attends the annual Space Operations Medical Support Training Course (SOMSTC) sponsored by NASA-JSC.
- Provide a physician qualified to act as WSTF Medical Review Officer.
- Ensure that all staff nurses at the WSTF are current in ACLS.

6.3 INDUSTRIAL HYGIENE

As part of a comprehensive industrial hygiene program at WSTF, and for the purpose of evaluating and characterizing workplace health hazards, the Contractor shall:

- Characterize and assess workplace exposures.
- Maintain workplace survey plan and assessment data. Conduct annual workplace health inspections as required by 29 CFR 1960.
- Develop an exposure assessment and annual IH sampling strategy and plan.
- Assist WSTF RSO, Asbestos Program Manager, and Chemical Hygiene Committee with program implementation and assessment.
- Provide recommendations to WSTF resident contractor personnel on industrial hygiene requirements, guidelines and practices.
- Conduct, participate as a board member, and provide expertise to mishap investigations in accordance with JPG 1700.1 as directed by the COTR or OHHTS for all categories of mishaps.
- Support the WSTF OMC in injury/illness case management for all suspected occupational injuries and illnesses.

- Inspect all food service facilities and food vending operations at least quarterly or as directed by COTR
- Perform quarterly safety and health assessments at the El Paso Forward Operating Location as directed by OHHTS, and submit report to AOD and OHHTS.
- Provide written reports for survey and inspection activities, per DRD.
- Prepare and submit a monthly report summarizing occupational health activities and site health trends.
- Manage and implement all site occupational health promotions and VPP certification activities as directed by QARSO and OMOHC COTR.
- Provide responses to NASA HQ OCHMO and JSC OHHTS, surveys, annual reports, and data and metrics requests.

DRAFT

ATTACHMENT C-1 - WORKLOAD SIZING DATA

The workload sizing data set forth below shall be used independently for each year of performance. The workload sizing data are not all inclusive of every task to be performed by the Contractor. These data were based on previous activity levels over approximately ten years. The definitions for each element are provided below.

See Section H.13, "Contract Adjustment" for further information.]

	Lower Threshold	Nominal	Upper Threshold
JSC Occupational Medicine	(-20%)		(+20%)
Clinic Encounters/Visits	18,400	23,000	27,600
Health Screening (Civil Servant exams)	1,200	1,500	1,800
Job Related Examinations	2,240	2,800	3,360
Immunizations Administered	4,160	5,200	6,240
EAP Counseling Units	1,120	1,400	1,680
EAP Education Units	120	150	180
Ambulance Responses – JSC and SCTF	64	80	96
Ambulance Responses – Ellington	131	164	197
Special Events – Ambulance & Clinic	20	25	30
First Aid Kits (number on site)	80	100	120
Safety Glasses	160	200	240
X-Rays	1,920	2,400	2,880
Program Audits	176	220	264
Crash Carts		8	12
AED's	64	80	96

	Lower Threshold	Nominal	Upper Threshold
Human Test Support	(-20%)		(+20%)
Human Test Training	132	165	198
Number of Test Subject Exams Performed	656	820	984
Number of Underwater and Vacuum Chamber Tests	328	410	492
Number of Research Proposals	80	100	120

	Lower Threshold	Nominal	Upper Threshold
JSC Occupational Health	(-20%)		(+20%)
IH Field Visits/Surveys	2240	2800	3360
Environmental Surveillance Field Visits	2800	3500	4200
EHL Samples Analyzed	5920	7400	8880
Radiological Health Field Visits	300	375	450
Training	26,400	33,000	39,600
Special Project Support (After Hours/Weekends)	128	160	192

	Lower Threshold	Nominal	Upper Threshold
WSTF Occupational Medicine	(-20%)		(+20%)
Clinic Encounters/Visits	2,960	3,700	4,440
Health Screening (Civil Servant exams)	560	700	840
Job Related Examinations	720	900	1080
EAP Counseling Units	19	24	29

	Lower Threshold	Nominal	Upper Threshold
WSTF Occupational Health	(-20%)		(+20%)
IH Field Visits/Surveys	160	200	240

Definitions

Clinic Encounter - an employee presenting themselves to one of the clinics for purposes other than their scheduled health screening exam or job related physical exams. Examples of reasons for presenting include: blood pressure check, allergy shot administration, and presentation for non-occupational illness or injury.

Civil Service Health Screenings - full Health Screening physical examinations which are conducted according to the protocol in Attachment C-2. Off year "Birthday" checks are not included in this metric. Longitudinal Study Control physical examinations should not be counted separately. Although these physicals are usually conducted over two visits, they shall count as one physical exam in the metric.

Job Related Examinations - medical surveillance or fitness for duty physical examinations as required by JPG 1700.1, NASA, Federal, State and other applicable requirement. Although these physicals are usually conducted over two visits, they shall count as one physical exam in the metric.

Any physical or examination is considered a single unit – even if it fulfills the requirements of both the civil service health screening and a job related physical.

Immunizations Administered – the majority of immunizations are administered during the center-wide "flu-shot" campaign. During this campaign, contractor personnel have traditionally spent several days at the more heavily occupied buildings on site as well as Ellington Field and the NBL administering the flu vaccines.

EAP Counseling Unit – a single interaction with one or more individuals, lasting at least 30 minutes.

EAP Education Unit – a class or training session. This may be a class that is scheduled by EAP, and offered to any or all employees; or one that is requested by employees to be given on a specific topic of interest. Metric is one session or course.

Ambulance Responses – Includes all responses: False alarms, standbys, refusal of treatment, treatment but no transport, and transports.

Special Events – The number of days when activities at JSC occur outside the normal scope of work. These activities include Open House, Lunar Rendezvous, Management Sponsored Events, Chili Cook-Offs, etc.

First Aid Kits – Institutional and NASA aircraft first aid kits containing items such as bandages, band-aids, and antibiotic ointments. The contractor shall replace kits and contents at the request of the user. Number in table indicates the number of kits on-site and in aircraft. Requests for restocking are variable.

Safety Glasses – Value represents the average number of pairs of prescription safety glasses provided on an annual basis. Current guidelines allow replacement of prescription safety glasses every two years or when change in prescription occurs.

X-Rays – Number represents the number of views.

Program Audits – figure represents the number of external and internal program person audit days that the contractor is expected to support. Figure represents support of those

activities covered by WBS section 1.3.5. All other routine audits, inspections, evaluations are considered part of normal business. Contractor shall provide for technical (primary), logistical or administrative support.

Crash Carts – this figure represents the number of crash carts located in various medical treatment rooms at JSC and SCTF. These crash carts are typical of those that would be found in an Emergency Center and contain supplies necessary for administration of Advanced Life Support to a patient.

Human Test Training – physiological, crew medical, first aid or other human test training for altered pressure environment participants. Metric unit is one course.

Test Subject Exams – “Test subject” examinations will be the total number of examinations performed for both “underwater tests” and “human tests”. For example, an NBL session with three subjects will be considered as one underwater test; and three test subject exams.

Underwater or Vacuum Chamber Test – an “underwater test” is defined as a scheduled NBL session lasting between 1-6 hours and consisting of 1-3 suited subjects plus all supporting dive personnel. Routine dives for the purposes of mockup maintenance, repair, upgrade, reconfiguration, etc. where suited subjects are not present, are not considered to be underwater tests.

Research Proposals – review by the Protocol Compliance Officer of any proposed human research proposal from the CPHS or a proposal from any other source.

IH Field Visit – is any response in the field for purpose of WHI, survey, complaint investigation, ergonomic evaluation, sample placement and retrieval (where samples are placed in the field, sample placement and pick-up is counted as a single visit).

Environmental Surveillance Field Visit – is any response in the field for purpose of WHI, survey, complaint investigation, sample placement and retrieval (where samples are placed in the field, sample placement and pick-up is counted as a single visit).

EHL Sample – the receipt, catalog and analysis of a single sample in the environmental health laboratory, whether it is analyzed in-house, or sent out for analysis.

Radiological Health Field Visit – specifically pertaining to Ionizing and Non-Ionizing Radiation, is any response in the field for purpose of WHI, survey, complaint investigation, ergonomic evaluation, sample placement and retrieval (where samples are placed in the field, sample placement and pick-up is counted as a single visit).

Training – any scheduled or un-scheduled occupational health training for the purpose of certification, compliance or information. Each single student in attendance is counted as a single training unit. Each computer based training encounter is included as a single training unit toward the total.

Special Project Support – any after hours or weekend Occupational Health Services support for JSC construction, renovation, or emergency response projects or activities. Figure represents the number of 8 hour person days. While these projects are primarily in support of Center Operations projects, any JSC organization may require support. Independent work is expected whenever possible.

ATTACHMENT C-2 – CIVIL SERVICE PHYSICAL EXAMINATION SCHEDULE

Physical Exam	Flexible Sigmoidoscopy	Treadmill	PSA	PAP	Mammogram
Baseline then every 3 years to 45	None	None	None	Annually all ages	Baseline by age 40
			40		Every 2 years 40-50
			42		
Every 2 years 45-61	Every 4 years 45-61	Every 4 years 45-61	Every 2 years 45-61		Annually after 50
Annually after 61	Annually after 61	Annually after 61	Annually after 61		

ATTACHMENT C-3 – LSAH HEALTH SCREENING EXAMINATION SCHEDULE

Physical Exam	Flexible Sigmoidoscopy	Treadmill	PSA	PAP	Mammogram		
Baseline then every 2 years starting at 21*	Baseline at first exam	None	None	Annually all ages	Baseline by age 40		
		25					
		31					
		35					
	40-41	41	40		Every 2 years 43-61	Every 2 years 40-50	
	45	Every 2 years after age 41					
	49		Annually after age 61				
	Every 2 years after age 49						
						Annually after age 50	

* Chest x-ray at selection and thereafter as needed.

ATTACHMENT C-4 - DUTY HOURS

The Contractor shall ensure that all managers, leads and field support personnel have the means to be contacted (pager or cell phone) for consultation during duty hours, after hours, on weekends, and holidays as necessary for specific project or program support or information. When managers or technical personnel are not available, back-up coverage for supported projects or responsibilities is required. The Contractor normal hours of operations shall be:

Occupational Medicine Clinic

Monday - Friday	7:30am to 4:00pm (normal operations)
Monday – Friday	4:00pm to 5:00pm (walk ins and emergent care)
Federal Holidays	7:30am to 5:00pm (walk ins and emergent care)

The Occupational Medicine Clinic is closed on New Years Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, and Christmas. After 4:00pm and on Federal Holidays when the clinic is open, it shall be staffed to provide walk-in and emergent care. At the direction of the COTR, the clinic may be required to be open and staffed during special events held at JSC where the general public is allowed access to JSC grounds outside normal hours of operation. Examples of these events are the JSC Open House and the Ballunar Festival.

Flight Medicine Clinic

Monday – Friday	7:30am to 4:30pm
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The FMC is closed on all Federal Holidays.

Human Test Support

Monday – Friday	6:30am to 5:00pm as required
Monday – Friday	3:30pm to 11:00pm (NBL 2 nd shift)

Human Test Support hours may vary based on testing schedules and could include operations outside the indicated hours, on weekends, and on Federal Holidays. Support for the NBL 2nd shift (reconfiguration shift) shall be a Texas DSHS certified Paramedic certified to provide ACLS and other emergent care and an Aerospace Physiologist.

JSC Ambulance

Monday – Friday	7:30am to 4:00pm	two ambulances
Monday – Friday	4:00pm to 10:30pm	one ambulance
Saturday	9:00am to 3:00pm	one ambulance
Federal Holidays	7:30am to 5:00pm	varies

No ambulance will be in operation on New Years Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, and Christmas. One ambulance shall be in service all other Federal Holidays that occur on Monday – Friday. An ambulance may be required to be staffed during certain special events outside normal hours of operation. Examples of these events are the JSC Open House and the Ballunar Festival.

Ellington Field Ambulance

Monday – Friday	7:30am to 11:00pm
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Ambulance staffing is not required on Federal Holidays. An ambulance may be required to be staffed during certain special events outside normal hours of operation.

Occupational Health Services

Monday - Friday 7:00am to 5:00pm

Shall be staffed for the listed hours; however, after hours, weekend and holiday support may be required for specific projects. Leads and field personnel shall be immediately available by cell phone or pager for consultation.

Starport Fitness Facility at the Gilruth Center

Monday - Friday 6:30am to 10:30pm

Saturday 10:00am to 6:30pm

Contractor shall be staffed during the indicated times; hours may be varied to meet loading as directed by the COTR.

Space Center Houston First Aid Station

Daily

Space Center Houston is closed Christmas Day. Operational hours change seasonally to accommodate visitor attendance. During "non-peak" season, SCH is open 10:00am to 5:00pm during the week and 10:00am to 7:00pm on the weekends. During "peak season", when public schools are not in session (summer, Thanksgiving, Christmas and Spring Break), SCH hours are 10:00am to 7:00pm, daily. Hours of operation are subject to change based on SCH's operating calendar, which is generated in November for the following calendar year. Staffing may be required at special events outside the hours indicated.

Russian Operations Support

Daily 24 hours / day

Russian Operations Support is required on a continuous basis however this is not intended to imply that there is a staffed facility available for walk-in at all times. This support may be provided through the use of on-call personnel available for medical consultation and treatment,

White Sands Test Facility Clinic

Monday - Friday 7:00am to 3:30pm

The WSTF Clinic is closed on all Federal Holidays. The clinic shall be staffed for the listed hours; however, after hours, weekend and holiday support may be required for specific projects or events on an infrequent basis.

White Sands Test Facility Industrial Hygiene

Monday - Friday 7:00am to 3:30pm

Industrial Hygiene shall be staffed for the listed hours; however, after hours, weekend and holiday support may be required for specific projects. All field personnel are expected to be immediately available by cell phone or pager for consultation.

ATTACHMENT C-5 – ACRONYM LIST

ABIH	American Board of Industrial Hygiene
ACGIH	American Conference of Governmental Industrial Hygienists
ACLS	Advanced Cardiac Life Support
ACM	Asbestos Containing Materials
AED	Automated External Defibrillator
AIDS	Acquired Immunodeficiency Syndrome
AIHA	American Industrial Hygiene Association
AMD	Aerospace Medicine Board
AME	Aviation Medical Examiner
AOD	Aircraft Operations Division
ASMDB	Aerospace Medicine Dive Medicine Board
BOE	Basis of Estimate
BTLS	Basic Trauma Life Support
CAOHC	Council on Accreditation for Occupational Hearing Conservation
CATL	Coordination Action Tracking Log
CFR	Code of Federal Regulations
CISD	Critical Incident Stress Debriefing
CLCWA	Clear Lake City Water Authority
CMIS	Computerized Medical Information System
CO	Carbon Monoxide
CO	Contracting Officer
COD	Center Operations Directorate
CoF	Construction of Facilities
COTR	Contracting Officer's Technical Representative
COTS	Commercial Off-The-Shelf
CPHS	Committee for the Protection of Human Subjects
CPL	Cardiopulmonary Laboratory
CPR	Cardiopulmonary Resuscitation
DCS	Decompression Sickness
DEA	Drug Enforcement Administration
DOD	Department of Defense
DOL	Department of Labor
DOT	Department of Transportation
DRD	Data Requirements Document
EAP	Employee Assistance Program
ECG	Electrocardiogram
ECOMS	Executive Committee of the Medical Staff
EHL	Environmental Health Laboratory
EMR(S)	Electronic Medical Records (System)
EMS	Emergency Medical Services
EMT(-B)(-P)	Emergency Medical Technician (-Basic) (-Paramedic)
EOC	Emergency Operations Center
EPA	Environmental Protection Agency
EPP	Emergency Preparedness Plan
EPCRA	EPA "Emergency Planning and Community Right-to-Know Act"
ERT	Emergency Response Team
ESA	European Space Agency
ESC	Executive Safety Committee
ETA	Environmental Test Article

FAA	Federal Aviation Administration
FMC	Flight Medicine Clinic
FOIA	Freedom of Information Act
GCTC	Gagarin Cosmonaut Training Center
HACCP	Hazard Analysis and Critical Control Point
HATS	Hazard Abatement Tracking System
HAZCOM	Hazard Communication
HAZMAT	Hazardous Material
HAZWOPER	Hazardous Waste and Emergency Operations
HERS	Health Environmental Resource System
HIPPA	Health Information Portability Protection Act
HQ	Headquarters
IDLH	Immediately Dangerous to Life and Health
IH	Industrial Hygiene
IRIS	Incident Reporting and Information System
IT	Information Technology
IV	Intravenous
ISO	International Organization for Standards
ISS	International Space Station
ISW	Industrial Solid Waste
JCAHO	Joint Commission on Accreditation of Healthcare Organizations
JHB	JSC Handbook
JMI	JSC Management Instruction
JPD	JSC Policy Directive
JPG	JSC Procedures and Guidelines
JPR	JSC Procedural Requirements
JSAT	JSC Safety Action Team
JSC	Johnson Space Center
LIMS	Laboratory Information Management System
LP	Licensed Paramedic
LSAH	Longitudinal Study of Astronaut Health
MICU	Mobil Intensive Care Unit
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MRO	Medical Review Officer
MSDS	Material Safety Data Sheet
NASA	National Aeronautics and Space Administration
NBL	Neutral Buoyancy Laboratory
NELAC	National Environmental Laboratory Accreditation Committee
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NMI	NASA Management Instruction
NPR	NASA Procedural Requirements
NRC	Nuclear Regulatory Commission
NSOC	NBL/SVMF Operations Contract
OCHMO	Office of the Chief Health and Medical Officer
OHHTS	Occupational Health and Human Test Support
OMC	Occupational Medicine Clinic
OMOH	Occupational Medicine and Occupational Health
OMOHC	Occupational Medicine and Occupational Health Contract
OSHA	Occupational Safety and Health Administration
PAO	Public Affairs Office

PCB	Polychlorinated Biphenyl
PDA	Personal Digital Assistant
PDF	Portable Document Format
PEB (IT)	Performance Evaluation Board (Integration Team)
PIF	Performance Incentive Fee
PPE	Personal Protective Equipment
PRP	Personnel Reliability Program
QA	Quality Assurance
QAPP	Quality Assurance Plans & Procedures
QARSO	Quality Assurance, Reliability, and Safety Office (WSTF)
RCRA	Resource Conservation and Recovery Act
RIC	Radioactive Isotope Committee
RN	Registered Nurse
ROM	Rough Order of Magnitude
RSO	Radiation Safety Officer
SA	Space Life Sciences Directorate Mail Code
S&H	Safety and Health
S&MA	Safety and Mission Assurance
S&TH	Safety & Total Health
SAPP	Sampling and Analysis Plan and Procedures
SCH	Space Center Houston
SCTF	Sonny Carter Training Facility
SD	Space Medicine and Health Care Systems Division Mail Code
SFS	Safety and Fire Services
SIP	State Implementation Plan
SLSD	Space and Life Sciences Directorate
SOMSTC	Space Operations Medical Support Training Course
SOW	Statement of Work
SSATA	Space Station Air Lock Test Article
SVMF	Space Vehicle Mockup Facility
TDSHS	Texas Department of State Health Services
TCEQ	Texas Commission on Environmental Quality
TDH	Texas Department of Health (former name of the TDSHS)
TRI	Toxic Release Inventory
TRR(B)	Test Readiness Review (Board)
TSCA	Toxic Substance Control Act
VPP	Voluntary Protection Program (OSHA)
WAD	Work Authorization Directive
WHI	Workplace Health Inspection
WSTF	White Sands Test Facility , Las Cruces, New Mexico